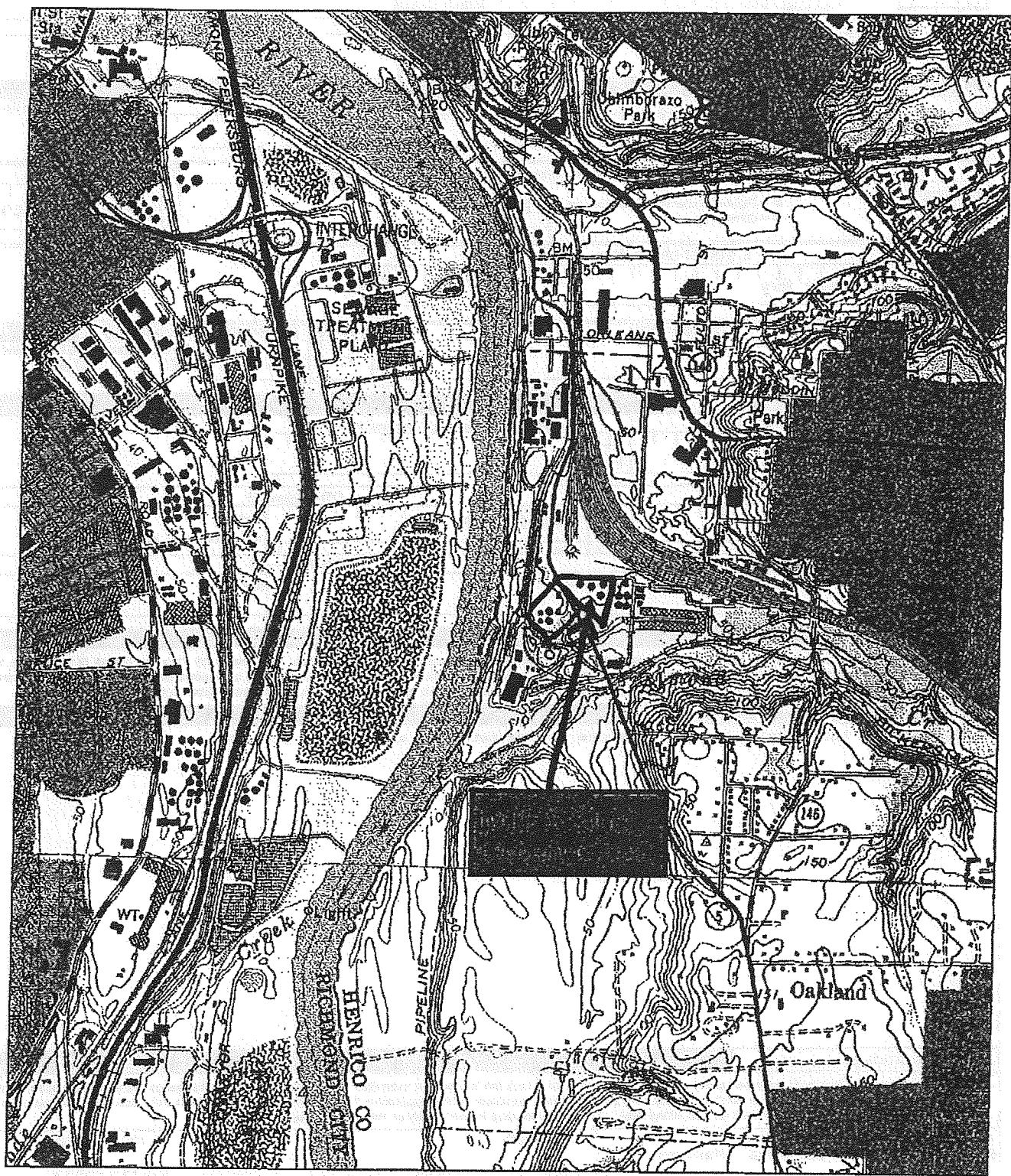


**Attachment A**

**Site Maps and Flow Diagrams**

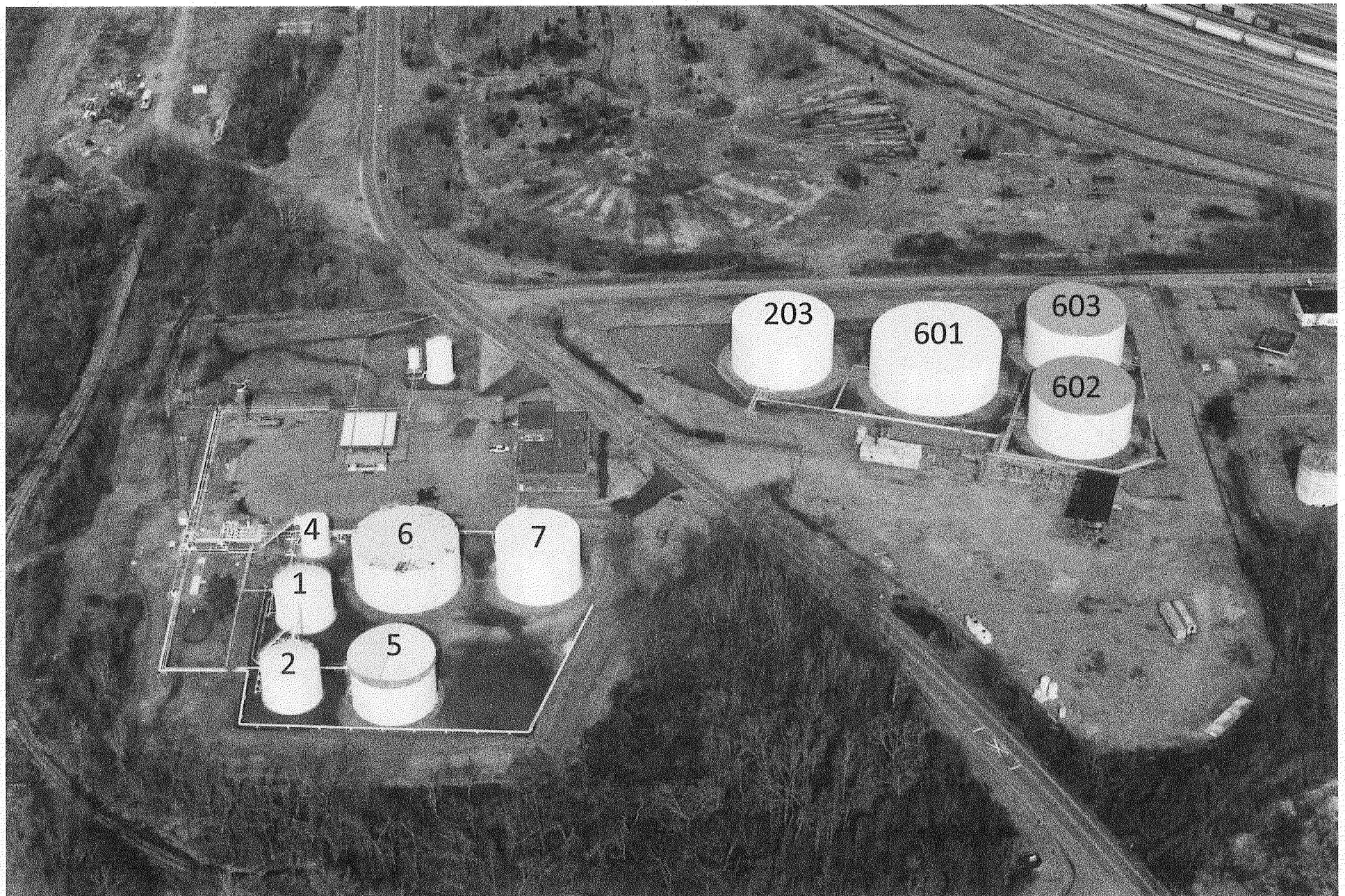
VA0054291 - IMTT-Virginia Richmond East

TOPO MAP



0 0.5 MI  
0 2000 Ft

Map provided by MyTopo.com

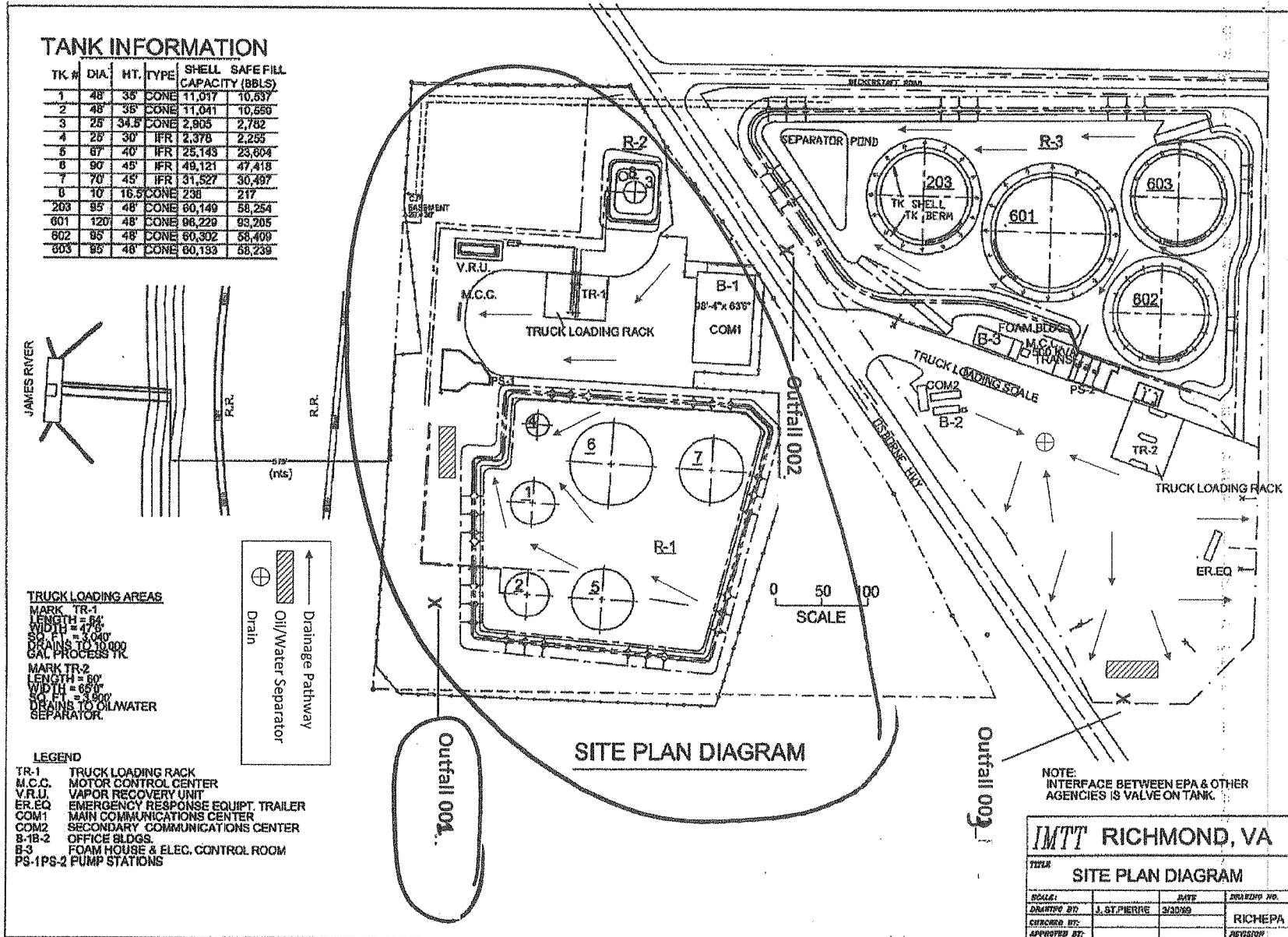


IMTT-Virginia Richmond Terminal

5500 Old Osborne Turnpike

Richmond, VA 23231

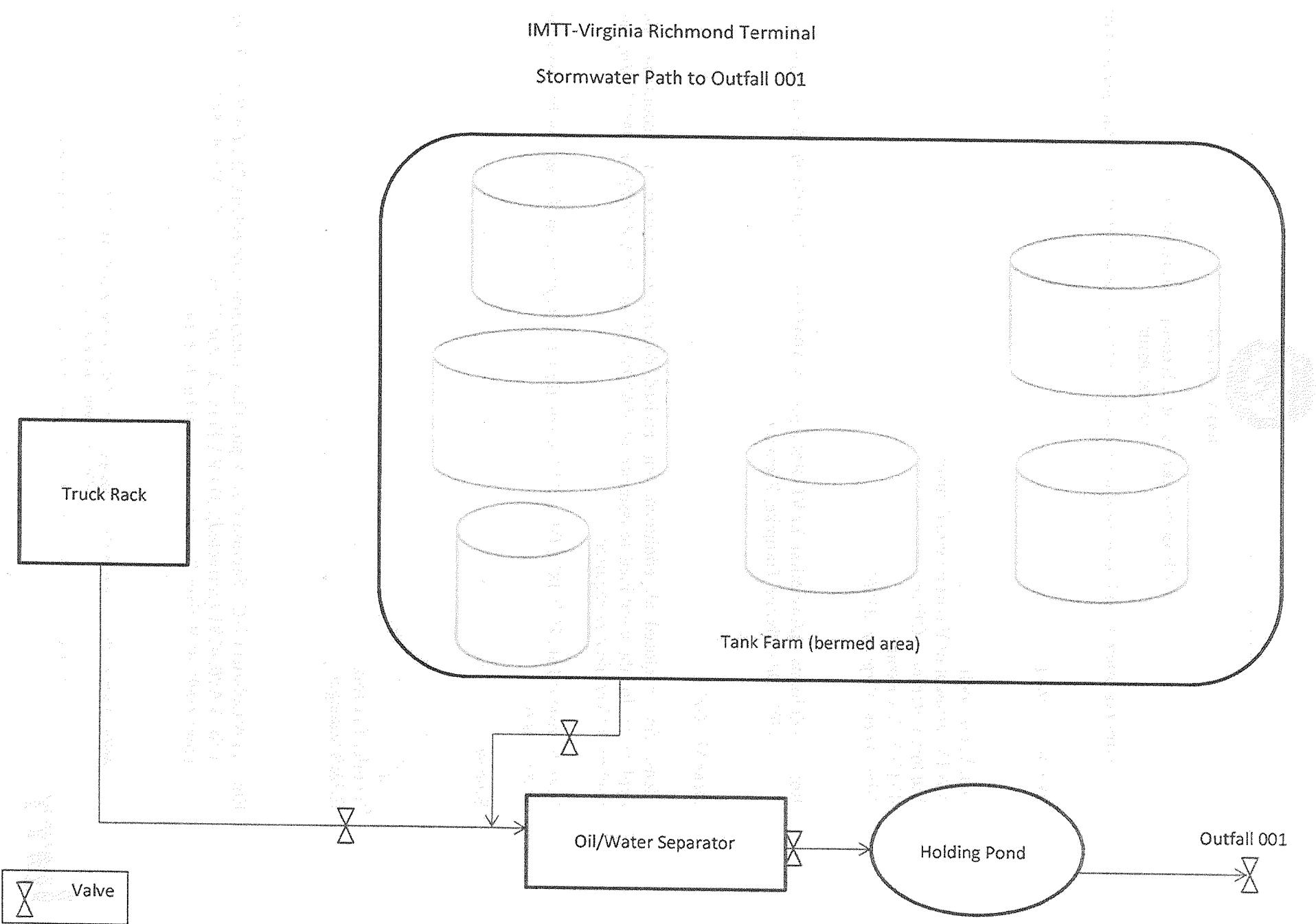
IMTT-Virginia Richmond Terminal: A-1 (drainage)



Form 2-C : Section II.A. WATER FLOW

IMTT-Virginia Richmond Terminal

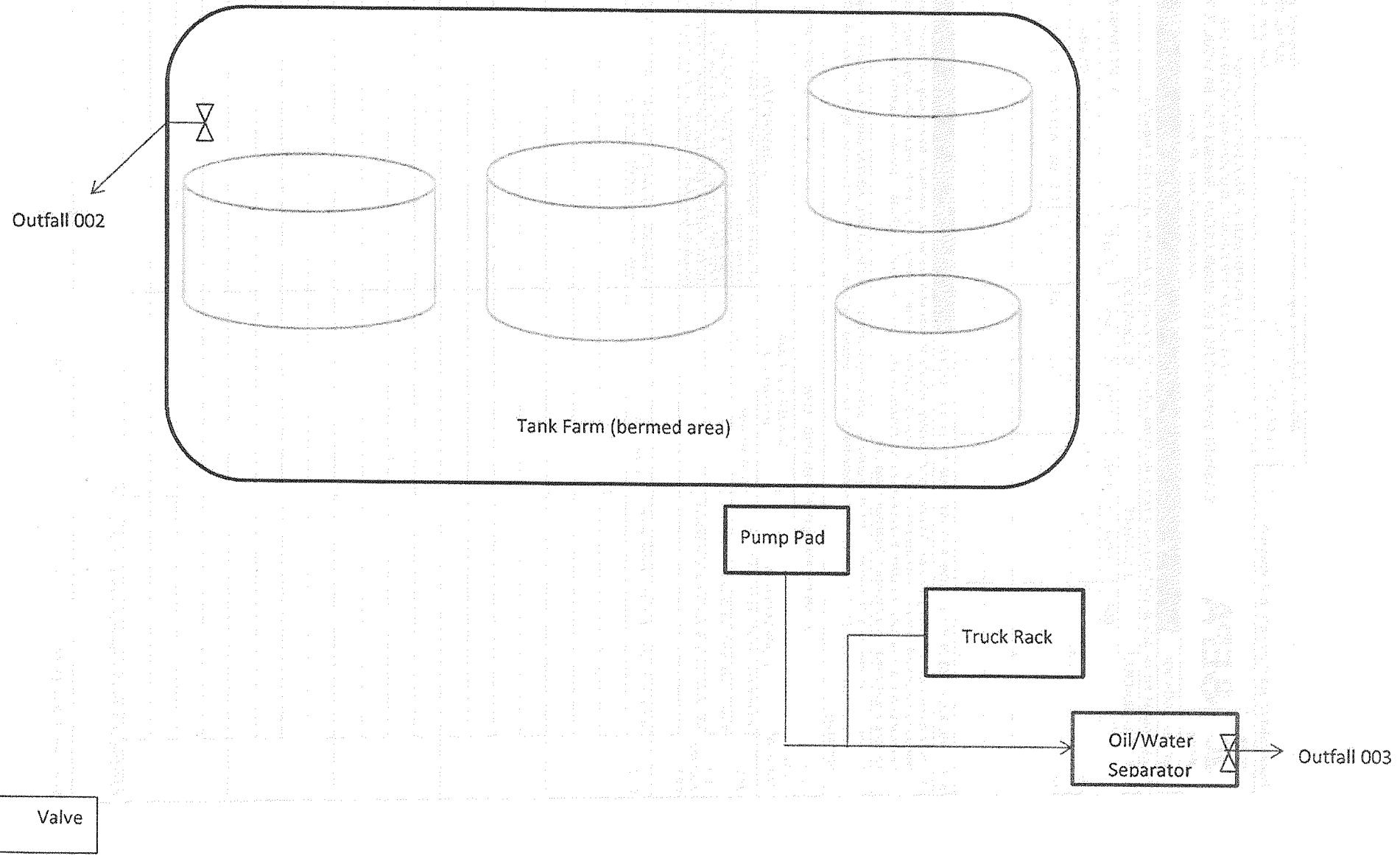
Stormwater Path to Outfall 001



Form 2-C : Section II.A. WATER FLOW

IMTT-Virginia Richmond Terminal

Stormwater Path to Outfall 002 & 003



**Attachment B**

**Flow Frequency Memorandum**

## MEMORANDUM

**DEPARTMENT OF ENVIRONMENTAL QUALITY  
Piedmont Regional Office  
4949-A Cox Road Glen Allen, Virginia 23060**

---

**SUBJECT:** Flow Frequency Determination / 303(d) Status  
IMTT Virginia Richmond – VA0055409

**TO:** Laura Galli

**FROM:** Jennifer Palmore, P.G.

**DATE:** August 2, 2013

**REVISED:** September 17, 2014

**COPIES:** File

The IMTT - Virginia Richmond Terminal facility is located in Henrico County. Outfall 001 discharges to an unnamed tributary of the James River at rivermile 2CXB000.15. Outfalls 002 and 003 discharge to unnamed tributaries of Almond Creek at rivermiles 2CXXZ000.13 and 2CXOH000.17, respectively. Flow frequencies have been requested for use in developing effluent limitations for the VPDES permit. The outfalls were previously addressed in two separate permits (VA0055409 and VA0054291); however, these permits are being consolidated.

At the discharge points, the receiving stream are shown as a dry ditches on the USGS 7 ½' Richmond Topographic Quadrangle. The flow frequencies for dry ditches are listed below:

**Outfalls 001, 002, and 003:**

1Q30 = 0.00 cfs	High Flow 1Q10 = 0.00 cfs
1Q10 = 0.00 cfs	High Flow 7Q10 = 0.00 cfs
7Q10 = 0.00 cfs	High Flow 30Q10 = 0.00 cfs
30Q10 = 0.00 cfs	HM = 0.00 cfs
30Q5 = 0.00 cfs	

Due to their ephemeral nature, the receiving streams are considered Tier 1 waters. Effluent data should be used to characterize the receiving stream during low-flow conditions.

During the 2012 305(b)/303(d) Integrated Water Quality Assessment, the unnamed tributaries were considered Category 2B waters ("Waters are of concern to the state but no Water Quality Standard exists for a specific pollutant, or the water exceeds a state screening value or toxicity test."). The streams are included under the Virginia Department of Health Fish Consumption Advisory for the James River and its tributaries due to kepone in fish tissue; therefore they were assessed as fully supporting with observed effects for the Fish Consumption Use. The other designated uses were not assessed.

The discharges were included in the James River and Tributaries – City of Richmond Bacterial TMDL, which was approved by the EPA on 11/4/2010 and by the SWCB on 6/29/2012. The outfalls were modeled, but were not assigned an E. coli wasteload allocation because the facility is not permitted for fecal coliform control.

IMTT was also addressed in the Chesapeake Bay TMDL, which was approved by the EPA on 12/29/2010. The TMDL allocates loads for total nitrogen, total phosphorus, and total suspended solids to protect the dissolved oxygen and submerged aquatic vegetation acreage criteria in the Chesapeake Bay and its tidal tributaries. The discharges were included in the aggregated loads for non-significant

wastewater dischargers in the upper James River tidal freshwater estuary (JMSTF2). The nutrient allocations are administered through the Watershed Nutrient General Permit; the TSS allocations are considered aggregated and facilities with technology-based TSS limits are considered to be in conformance with the TMDL.

If you have any questions concerning this analysis, please let me know.

**Attachment C**

**Site Visit**

# Virginia Department of Environmental Quality

## FOCUSED CEI TECH/LAB INSPECTION REPORT

<b>FACILITY NAME:</b> IMTT- Virginia (West Terminal) 5500 Old Osborne Turnpike Richmond, VA 23231		<b>INSPECTION DATE:</b> <u>April 17, 2014</u>	
		<b>INSPECTOR</b> <u>Heather A. H. Deihls</u>	
<b>PERMIT No.:</b> <u>VA0055409</u>		<b>REPORT DATE:</b> <u>May 6, 2014</u>	
<b>TYPE OF FACILITY:</b> <input type="checkbox"/> Municipal <input type="checkbox"/> Major <input checked="" type="checkbox"/> Industrial <input checked="" type="checkbox"/> Minor <input type="checkbox"/> Federal <input type="checkbox"/> Small Minor <input type="checkbox"/> HP <input type="checkbox"/> LP	<b>TIME OF INSPECTION:</b>	<u>1000</u> Arrival	<u>1130</u> Departure
	<b>TOTAL TIME SPENT</b>	<u>16 hours</u>	
<b>PHOTOGRAPHS:</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<b>UNANNOUNCED INSPECTION?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
<b>REVIEWED BY / Date:</b> <u>SDW 5/6/14</u> <u>KLW 5/7/14</u>			
<b>PRESENT DURING INSPECTION:</b>		<u>Jennifer LaCroix, EH&amp;S Manager cell: 757-621-8346;</u> <u>Sheri Shiflet, DEQ Permit Writer</u>	
<b>WEATHER:</b>		<u>49°F; partly cloudy</u>	

### TECHNICAL INSPECTION

1. Has there been any new construction? • If so, were plans and specifications approved? <u>Comments:</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2. Is the Operations and Maintenance Manual approved and up-to-date? <u>Comments: O&amp;M Manual dated 12/31/09</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3. Are the Permit and/or Operation and Maintenance Manual specified licensed operator being met? <u>Comments:</u>	<input type="checkbox"/> Yes <input type="checkbox"/> No N/A
4. Are the Permit and/or Operation and Maintenance Manual specified operator staffing requirements being met? <u>Comments:</u>	<input type="checkbox"/> Yes <input type="checkbox"/> No N/A
5. Is there an established and adequate program for training personnel? <u>Comments: New employee training and computer training ~every 3 years; Hazwoper, SPCC spill training.</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
6. Are preventive maintenance task schedules being met? <u>Comments:</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
7. Does the plant experience any organic or hydraulic overloading? <u>Comments:</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
8. Have there been any bypassing or overflows since the last inspection? <u>Comments:</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
9. Is the standby generator (including power transfer switch) operational and exercised regularly? <u>Comments:</u>	<input type="checkbox"/> Yes <input type="checkbox"/> No N/A
10. Is the plant alarm system operational and tested regularly? <u>Comments: High level alarms on storage tanks.</u>	<input type="checkbox"/> Yes <input type="checkbox"/> No N/A

# VA DEQ Focused CEI Tech/Lab Inspection Report

Permit #

VA0055409

## TECHNICAL INSPECTION

<p>11. Is sludge disposed of in accordance with the approved sludge management plan?  <u>Comments: Coastal Services, IMS is contracted to pump and haul from the oil/water separator.</u></p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<p>12. Is septage received?</p> <ul style="list-style-type: none"> <li>• If so, is septage loading controlled, and are appropriate records maintained?  <u>Comments:</u></li> </ul>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<p>13. Are all plant records (operational logs, equipment maintenance, industrial waste contributors, sampling and testing) available for review and are records adequate?  <u>Comments:</u></p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<p>14. Which of the following records does the plant maintain?</p> <p style="margin-left: 20px;"><input checked="" type="checkbox"/> Operational logs                              <input checked="" type="checkbox"/> Instrument maintenance &amp; calibration  <input checked="" type="checkbox"/> Mechanical equipment maintenance    <input type="checkbox"/> Industrial Waste Contribution (Municipal facilities)</p> <p><u>Comments:</u></p>	
<p>15. What does the operational log contain?</p> <p style="margin-left: 20px;"><input checked="" type="checkbox"/> Visual observations    <input checked="" type="checkbox"/> Flow Measurement    <input checked="" type="checkbox"/> Laboratory results    <input checked="" type="checkbox"/> Process adjustments  <input type="checkbox"/> Control calculations    <input checked="" type="checkbox"/> Other (specify)    <input type="checkbox"/> Monthly oil/water separator checks</p> <p><u>Comments: Not reviewed.</u></p>	
<p>16. What do the mechanical equipment records contain?</p> <p style="margin-left: 20px;"><input checked="" type="checkbox"/> As built plans and specs    <input checked="" type="checkbox"/> Manufacturers instructions    <input type="checkbox"/> Lubrication schedules  <input type="checkbox"/> Spare parts inventory    <input checked="" type="checkbox"/> Equipment/parts suppliers  <input type="checkbox"/> Other (specify)    <input type="checkbox"/></p> <p><u>Comments:</u></p>	
<p>17. What do the industrial waste contribution records contain (Municipal only)?</p> <p style="margin-left: 20px;"><input type="checkbox"/> Waste characteristics    <input type="checkbox"/> Impact on plant    <input type="checkbox"/> Locations and discharge types  <input type="checkbox"/> Other (specify)    <input type="checkbox"/></p> <p><u>Comments: N/A</u></p>	
<p>18. Which of the following records are kept at the plant and available to personnel?</p> <p style="margin-left: 20px;"><input checked="" type="checkbox"/> Equipment maintenance records    <input checked="" type="checkbox"/> Operational log    <input type="checkbox"/> Industrial contributor records  <input checked="" type="checkbox"/> Instrumentation records    <input checked="" type="checkbox"/> Sampling and testing records</p> <p><u>Comments:</u></p>	
<p>19. List records not normally available to plant personnel and their location:  <u>Comments: O&amp;M Manual maintained onsite. Records maintained electronically. Consultant keeps pH meter calibration records.</u></p>	
<p>20. Are the records maintained for the required time period (three or five years)?  <u>Comments:</u></p>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

# VA DEQ Focused CEI Tech/Lab Inspection Report

Permit #	VA0055409
----------	-----------

## UNIT PROCESS EVALUATION SUMMARY SHEET

<u>UNIT PROCESS</u>	<u>APPLICABLE</u>	<u>PROBLEMS*</u>	<u>COMMENTS</u>
Sewage Pumping			
Flow Measurement (Influent)			
Screening/Comminution			
Grit Removal			
Oil/Water Separator			
Flow Equalization			
Ponds/Lagoons	X		
Imhoff Tank			
Primary Sedimentation			
Trickling Filter			
Septic Tank and Sand Filter			
Rotating Biological Contactor			
Activated Sludge Aeration			
Biological Nutrient Removal			
Sequencing Batch Reactor			
Secondary Sedimentation			
Flocculation			
Tertiary Sedimentation			
Filtration			
Micro-Screening			
Activated Carbon Adsorption			
Chlorination			
Dechlorination			
Ozonation			
Ultraviolet Disinfection			
Post Aeration			
Flow Measurement (Effluent)			
Land Application (Effluent)			
Plant Outfall			
Oil Water Separator	X		
Sludge Pumping			
Flotation Thickening (DAF)			
Gravity Thickening			
Aerobic Digestion			
Anaerobic Digestion			
Lime Stabilization			
Centrifugation			
Sludge Press			
Vacuum Filtration			
Drying Beds			
Thermal Treatment			
Incineration			
Composting			
Land Application (Sludge)			

\* Problem Codes

- 1. Unit Needs Attention
- 2. Abnormal Influent/Effluent
- 3. Evidence of Equipment Failure
- 4. Unapproved Modification or Temporary Repair
- 5. Evidence of Process Upset
- 6. Other (explain in comments)

# VA DEQ Focused CEI Tech/Lab Inspection Report

Permit #

VA0055409

## INSPECTION OVERVIEW AND CONDITION OF TREATMENT UNITS

The facility has submitted a permit application to combine this VPDES permit with the IMTT East permit-VA0054291. This is an adjacent tank farm.

This tank farm has six aboveground storage tanks on site, 4 containing #2 fuel oil (diesel); two tanks are not in use. The facility no longer stores Avgas. An aerial view of the facility was provided at the time of inspection and is attached to this report. The tanks are all within earthen berms that appeared to be sound and in good condition. Rain water collected within the berms flows to the low point at the north western end of the containment, where a drop inlet directs the water to the oil water separator. A valve in the line controls the release of water from the dike. A very small amount of water had pooled at the southern end of the containment. This water evaporates and is visually monitored.

Runoff from the gravel parking lot is directed to the AST containment; it combines with rainwater collected in the tank farm on its way to the oil/water separator. The fueling rack is curbed. Drop inlets at each end collect any spillage and direct it straight to the oil/water separator. The pumps are all located over a concrete pad. Runoff and spills are directed to the oil/water separator by way of an open concrete channel. Truck maintenance is performed offsite.

The oil/water separator consists of a large covered tank with several baffles in it. The skimmer in the separator is manually operated as needed. The skimmings spill into an adjacent 10,000 gallon waste tank. The oil/water separator was not discharging at the time of the inspection. Coastal Services is contracted to pump and haul from the oil/water separator as needed.

Formerly, effluent of the oil/water separator entered an activated carbon box, which consisted of a metal box containing a tight mesh bag of carbon. The carbon box is no longer used. The carbon box effluent spills into a small settling pond. The valve on the pond is locked and maintained in a closed position, except during sampling events. Keeping the pond valve locked allows the pond to serve as containment in the event of a large spill. The water in the pond was clear with no evidence of oil sheen. From the settling pond, the effluent spills onto riprap, and then runs across the ground to a storm ditch that drains to the James River. There was no discharge at the time of the inspection. The riprap and ground below the outfall was clean.

The facility is equipped with 13 groundwater monitoring wells that are monitored and reported to the DEQ tanks group annually.

# VA DEQ Focused CEI Tech/Lab Inspection Report

Permit #

VA0055409

## LABORATORY INSPECTION

PRESENT DURING INSPECTION: Jennifer LaCroix

1. Do lab records include sampling date/time, analysis date/time, sample location, test method, test results, analyst's initials, instrument calibration and maintenance, and Certificate of Analysis?	
<input checked="" type="checkbox"/> Sampling Date/Time <input checked="" type="checkbox"/> Analysis Date/Time <input checked="" type="checkbox"/> Sample Location <input checked="" type="checkbox"/> Test Method <input checked="" type="checkbox"/> Test Results <input checked="" type="checkbox"/> Analyst's Initials <input type="checkbox"/> Instrument Calibration & Maintenance <input checked="" type="checkbox"/> Chain of Custody <input checked="" type="checkbox"/> Certificate of Analysis	
2. Are Discharge Monitoring Reports complete and correct? Month(s) reviewed: (See General Recommendations for details.) March 2014; SemiAnnual-6/1/13-11/30/14	
<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
3. Are sample location(s) according to permit requirements (after all treatment unless otherwise specified)?	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
4. Are sample collection, preservation, and holding times appropriate; and is sampling equipment adequate?	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
5. Are grab and composite samples representative of the flow and the nature of the monitored activity?	
<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
6. If analysis is performed at another location, are shipping procedures adequate? List parameters and name & address of contract lab(s): • JR Reed, Newport News VELAP ID: 460013	
<input type="checkbox"/> Yes <input type="checkbox"/> No	
8. Are annual thermometer calibration(s) adequate?	
<input type="checkbox"/> Yes <input type="checkbox"/> No	
11. Parameters evaluated during this inspection (attach checklists):	
<input checked="" type="checkbox"/> pH <input type="checkbox"/> Temperature <input type="checkbox"/> Total Residual Chlorine <input type="checkbox"/> Dissolved Oxygen <input type="checkbox"/> Total Suspended Solids <input type="checkbox"/> Other (specify) _____ <input type="checkbox"/> Other (specify) _____ <input type="checkbox"/> Other (specify) _____	
Comments: pH is performed by JR Reed and Associates. Meter and calibration records are maintained by the consultant.	

# VA DEQ Focused CEI Tech/Lab Inspection Report

ANALYST:	This page is intentionally blank; please use this information for reference.	VPDES NO	VA0055409
----------	--	----------	-----------

Meter: \_\_\_\_\_

Parameter: Hydrogen Ion (pH)

1/08

Method: Electrometric

**METHOD OF ANALYSIS:**

<input type="checkbox"/>	18 <sup>th</sup> Edition of Standard Methods – 4500-H <sup>+</sup> B
<input type="checkbox"/>	21 <sup>st</sup> or Online Editions of Standard Methods – 4500-H <sup>+</sup> B (00)

<b>pH is a method-defined analyte so modifications are not allowed. [40 CFR Part 136.6]</b>		<b>Y</b>	<b>N</b>
1)	Is a certificate of operator competence or initial demonstration of capability available for each analyst/operator performing this analysis? <b>NOTE:</b> Analyze 4 samples of known pH. May use external source of buffer (different lot/manufacturer than buffers used to calibrate meter). Recovery for each of the 4 samples must be +/- 0.1 SU of the known concentration of the sample. [SM 1020 B.1]		
2)	Is the electrode in good condition (no chloride precipitate, scratches, deterioration, etc.)? [2.b/c and 5.b]		
3)	Is electrode storage solution in accordance with manufacturer's instructions? [Mfr.]		
4)	Is meter calibrated on at least a daily basis using three buffers all of which are at the same temperature? [4.a] <b>NOTE:</b> Follow manufacturer's instructions.		
5)	After calibration, is a buffer analyzed as a check sample to verify that calibration is correct? Agreement should be within +/- 0.1 SU. [4.a]		
6)	Do the buffer solutions appear to be free of contamination or growths? [3.1]		
7)	Are buffer solutions within the listed shelf-life or have they been prepared within the last 4 weeks? [3.a]		
8)	Is the cap or sleeve covering the access hole on the reference electrode removed when measuring pH? [Mfr.]		
9)	For meters with ATC that also have temperature display, is the thermometer verified annually? [SM 2550 B.1]		
10)	Is temperature of buffer solutions and samples recorded when determining pH? [4.a]		
11)	Is sample analyzed within 15 minutes of collections? [40 CFR Part 136]		
12)	Is the electrode rinsed and then blotted dry between reading solutions (Disregard if a portion of the next sample analyzed is used as the rinsing solution.)? [4.a]		
13)	Is the sample stirred gently at a constant speed during measurement? [4.b]		
14)	Does the meter hold a steady reading after reaching equilibrium? [4.b]		

**COMMENTS:**

1. In May 2012, EPA issued a final rule to approve several new or revised analytical methods for measuring regulated pollutants in wastewater. This rule is also called the Methods Update Rule (MUR). One of the changes in this MUR is the naming convention used for citing Standard Methods. Citing the edition of Standard Methods is no longer applicable; now the citation must include the "date tag" in which the method was approved. Also note that for pH, D.O. and TRC, the 18<sup>th</sup> and 19<sup>th</sup> Editions of Standard Methods are no longer approved. Only the 20<sup>th</sup>, 21<sup>st</sup> and online Editions are approved. The current method citations are:

pH: SM4500-H<sup>+</sup> B -2000

Please update laboratory records and benchesheets to reflect this change in citing test methods.

# VA DEQ Focused CEI Tech/Lab Inspection Report

Permit #

VA0055409

**EFFLUENT FIELD DATA: No Discharge at the time of inspection.**

Flow	<input type="text"/> MGD	Dissolved Oxygen	<input type="text"/> mg/L	TRC (Contact Tank)	<input type="text"/> mg/L
pH	<input type="text"/> S.U.	Temperature	<input type="text"/> °C	TRC (Final Effluent)	<input type="text"/> mg/L

Was a Sampling Inspection conducted?  Yes (see Sampling Inspection Report)  No

## CONDITION OF OUTFALL AND EFFLUENT CHARACTERISTICS:

1. Type of outfall:

Shore based  Submerged

Diffuser?

Yes  No

2. Are the outfall and supporting structures in good condition?

Yes  No

3. Final Effluent (evidence of following problems): **No Discharge.**

Sludge bar  Grease  Turbid effluent  Visible foam  Unusual color  
 Oil sheen

4. Is there a visible effluent plume in the receiving stream? **No Discharge.**

Yes  No

5. Receiving stream:

No observed problems  Indication of problems (explain below)

Comments:

## REQUEST for ACTION ITEMS:

1. None.

## GENERAL RECOMMENDATIONS and COMMENTS:

- The site was in good condition. No spills or leaks were observed. Ms. LaCroix is very knowledgeable and conscientious about stormwater pollution prevention.
- A minor transcription error was noted on the March 5, 2014 chain of custody. The sample time was listed as "1325," relinquished at "1545," and received by the lab at "1345."
- The quarterly DMR (6/1/13-11/30/13) contains maximum and monthly average exceedances for metals. The facility lists the number of exceedances as "2" for each parameter. According to the paper DMR instructions issued with the 2008 permit and the eDMR handbook, monthly average exceedances are not counted toward the number of exceedances. The number reported should have reflected the maximum only and should have been "1." Attached to this report is a copy of the eDMR manual page on this subject.

As the above two items are considered minor, they are considered general recommendations and a written response is not required.

# VA DEQ Focused CEI Tech/Lab Inspection Report

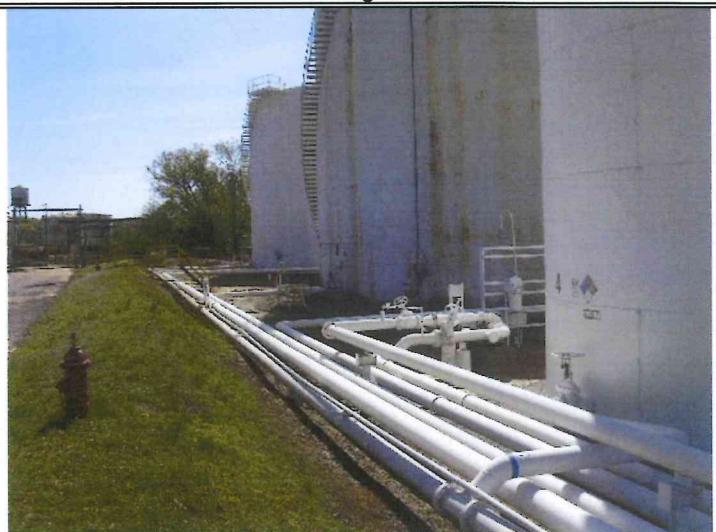
Permit #

VA0055409

Digital Photos taken on 4/17/14



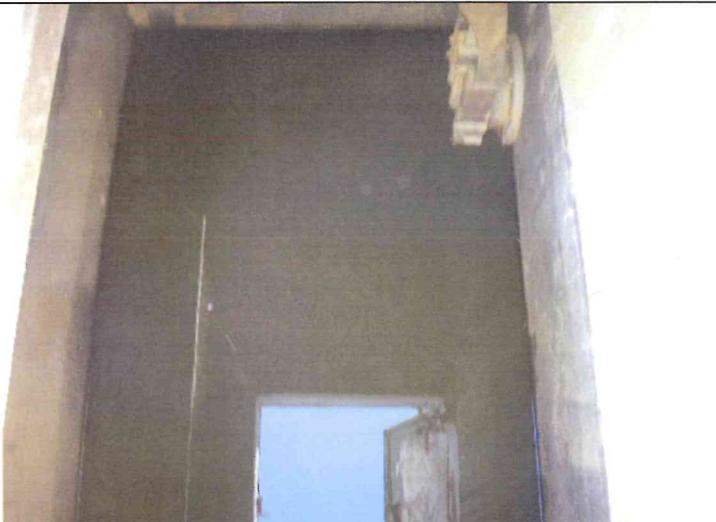
Photograph 1: Truck rack



Photograph 2: Tank Farm facing east



Photograph 3: Oil/water separator overview



Photograph 4: Inside the oil/water separator. No sheen.



Photograph 5: Old "carbon box" and Pond prior to discharge point



Photograph 6: Outfall 001 sample point

# VA DEQ Focused CEI Tech/Lab Inspection Report

Permit #

VA0055409

Digital Photos taken on 4/17/14



Photograph 7: Tank Farm facing west (standing stormwater was clear with no sheen)



Photograph 8: South-east corner of tank farm



IMTT-Virginia Richmond Terminal

5500 Old Osborne Turnpike

Richmond, VA 23231

- **Frequency of Analysis:** Select from the drop-down list the actual frequency of analysis for each parameter in the "reported" field in the column marked "Frequency of Analysis". If "Other" is selected, specify the actual frequency in the "Comment" field directly underneath. Permittees are required, at a minimum, to sample at the frequency indicated in the permit. If a permittee monitors any pollutant specifically addressed by the permit more frequently than the permit requires, the results of this monitoring shall be included in the calculation and reporting of the data submitted in this form.
  - **Sample Type:** Select from the drop-down list the actual type of sample collected in the field marked "Sample Type". Permittees are required, at a minimum, to sample using the sample type indicated in the permit. If "Other" is selected, specify the actual sample type in the "Comment" field directly underneath.
  - **Excursion No.:** In the text field marked "Excursion No.", enter the number (integers only) of samples which do not comply with the maximum and/or minimum permit requirements in the "Reporting Data" fields. Do not include monthly average excursions in this column. Include any Maximum 7-Day Average and Maximum Weekly Average violation in this field. Permittees with continuous pH, or temperature monitoring requirements should consult the permit for what constitutes an exceedance and report accordingly. The number of excursions is required to be entered in all cases except when there are no limits for that parameter, or if "NR" is entered.
5. **Navigating among parameters:** The user may either click on the parameter name in the list on the left side of the page, or use the **Previous Parameter** and **Next Parameter** buttons. On the final parameter screen, the Next Parameter button is deactivated. Select Previous Parameter or one of the Save, Exit, or Next buttons at the bottom of the screen.
6. **Bypasses and Overflows:** The user must record the number of bypasses and overflows that occurred at the permitted facility during the reporting period, the total flow in million gallons (MG) and BOD5 in kilograms (KG) in the proper columns.
7. **DEQ Comments:** This is a read-only section that displays information input by the DEQ for the user. [Applicable to Storm Water Industrial General Permit only.]
8. **Outfall- and Form-Specific Comments:** Enter specific comments and explanation in the space provided, where applicable. Where noncompliance of permit requirements is reported, provide a brief explanation in accordance with the permit requirements describing the cause(s) of the noncompliance, the duration of the noncompliance, including the date(s) the noncompliance began or occurred, and corrective actions

COMMONWEALTH OF VIRGINIA  
DEPARTMENT OF ENVIRONMENTAL QUALITY  
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)  
DISCHARGE MONITORING REPORT (DMR)

DEPT. OF ENVIRONMENTAL QUALITY  
(REGIONAL OFFICE)

Picadilly Regional Office  
4949-A Cox Road

Glen Allen, VA 23060

PERMITTEE NAME/ADDRESS (INCLUDE  
FACILITY NAME/LOCATION IF DIFFERENT)

IMTT - Richmond West  
5500 Old Osborne Trke  
Richmond, VA 23231

VA0055409  
DISCHARGE NUMBER  
001

MONITORING PERIOD					
YEAR	MO	DAY	YEAR	MO	DAY
2013	10	01	2013	11	30

NOTE: READ PERMIT AND GENERAL INSTRUCTIONS  
BEFORE COMPLETING THIS FORM

*Wendy*

✓

Parameter	Quantity or Loading			Quality or Concentration			NO. OF ANALYSIS	SAMPLE TYPE	LAB CODE
	AVERAGE	MAXIMUM	UNITS	MINIMUM	AVERAGE	MAXIMUM	UNITS		
ZINC, TOTAL RECOVERABLE	REPORTID	*****	UNITS	*****	93	93	UNITS	UGL	GRAB
PARAM CODE: 196 CADMUM, TOTAL RECOVERABLE	REPORTID	*****	UNITS	*****	30	30	UNITS	UGL	GRAB
PARAM CODE: 202 COPPER, TOTAL RECOVERABLE	REPORTID	*****	UNITS	*****	1.2	1.2	UNITS	UGL	GRAB
PARAM CODE: 203 LEAD, TOTAL RECOVERABLE	REPORTID	*****	UNITS	*****	0.46	0.46	UNITS	UGL	GRAB
PARAM CODE: 233 CERIODAPHNA DUBIA	REPORTID	*****	UNITS	*****	9.0	9.0	UNITS	UGL	GRAB
TU <sub>a</sub> -ACUTE 48 HR STATT PIMEPHALAES PROMELAS	REPORTID	*****	UNITS	*****	3.9	3.9	UNITS	UGL	GRAB
PARAM CODE: 711	REPORTID	*****	UNITS	*****	105	105	UNITS	UGL	GRAB
PARAM CODE: 712	REPORTID	*****	UNITS	*****	4.2	4.2	UNITS	UGL	GRAB
GENERAL PERMIT REQUIREMENTS OR COMMENTS: Semi-annual parameters pulled during October 2013 monthly sampling event. After talks with DFO/Picadilly Office and Central Office, initial parameters will be removed from West side outfall VPHS permit when revised Re-assess. is already in progress.									
PARAMETER-SPECIFIC COMMENTS:									

OPERATOR IN RESPONSIBLE CHARGE			
BYPASSES AND OVERFLOWS	TOTAL OCCURRENCES	TOTAL FLOW(M.G.)	TOTAL BOD5(KG.)

PRINCIPAL EXECUTIVE OFFICER OR AUTHORIZED AGENT	CERTIFICATE NUMBER
TYPE OR PRINTED NAME	TYPE OR PRINTED NAME

I declare under penalty of perjury that the information contained in this document is true and accurate to the best of my knowledge and belief, and that I have read and understood the information submitted is to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature \_\_\_\_\_ Date \_\_\_\_\_

Page 1



# Virginia Department of Environmental Quality

## FOCUSED CEI TECH/LAB INSPECTION REPORT

<b>FACILITY NAME:</b> IMTT- Virginia (East Terminal) 5501 Old Osborne Turnpike Richmond, VA 23231		<b>INSPECTION DATE:</b> April 17, 2014
		<b>INSPECTOR</b> Heather A. H. Deihls <i>Hand 4-25-14</i>
<b>PERMIT No.:</b> VA0054291		<b>REPORT DATE:</b> April 25, 2014
<b>TYPE OF FACILITY:</b> <input type="checkbox"/> Municipal <input type="checkbox"/> Major <input checked="" type="checkbox"/> Industrial <input checked="" type="checkbox"/> Minor <input type="checkbox"/> Federal <input type="checkbox"/> Small Minor <input type="checkbox"/> HP <input type="checkbox"/> LP		<b>TIME OF INSPECTION:</b> 1000 Arrival      1130 Departure <b>TOTAL TIME SPENT</b> <u>16 hours</u>
<b>PHOTOGRAPHS:</b> <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<b>UNANNOUNCED INSPECTION?</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
<b>REVIEWED BY / Date:</b> SDW 4/29/14 <i>Kim 4/29/14</i>		
<b>PRESENT DURING INSPECTION:</b> Jennifer LaCroix, EH&S Manager cell: 757-621-8346; Sheri Shiflet, DEQ Permit Writer		
<b>WEATHER:</b> 49°F; partly cloudy		

### TECHNICAL INSPECTION

1. Has there been any new construction? <ul style="list-style-type: none"> <li>• If so, were plans and specifications approved?</li> </ul> <u>Comments:</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
2. Is the Operations and Maintenance Manual approved and up-to-date? <u>Comments: O&amp;M Manual dated 12/31/09</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
3. Are the Permit and/or Operation and Maintenance Manual specified licensed operator being met? <u>Comments:</u>	<input type="checkbox"/> Yes <input type="checkbox"/> No N/A
4. Are the Permit and/or Operation and Maintenance Manual specified operator staffing requirements being met? <u>Comments:</u>	<input type="checkbox"/> Yes <input type="checkbox"/> No N/A
5. Is there an established and adequate program for training personnel? <u>Comments: New employee training and computer training ~every 3 years; Hazwoper, SPCC spill training.</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
6. Are preventive maintenance task schedules being met? <u>Comments:</u>	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
7. Does the plant experience any organic or hydraulic overloading? <u>Comments:</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
8. Have there been any bypassing or overflows since the last inspection? <u>Comments:</u>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
9. Is the standby generator (including power transfer switch) operational and exercised regularly? <u>Comments:</u>	<input type="checkbox"/> Yes <input type="checkbox"/> No N/A
10. Is the plant alarm system operational and tested regularly? <u>Comments: High level alarms on storage tanks.</u>	<input type="checkbox"/> Yes <input type="checkbox"/> No N/A

## VA DEQ Focused CEI Tech/Lab Inspection Report

Permit #

VA0054291

## TECHNICAL INSPECTION

11. Is sludge disposed of in accordance with the approved sludge management plan? <u>Comments:</u> Coastal Services, IMS is contracted to pump and haul from the oil/water separator.		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
12. Is septage received? <ul style="list-style-type: none"> <li>• If so, is septage loading controlled, and are appropriate records maintained?</li> </ul> <u>Comments:</u>		<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
13. Are all plant records (operational logs, equipment maintenance, industrial waste contributors, sampling and testing) available for review and are records adequate? <u>Comments:</u>		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
14. Which of the following records does the plant maintain? <p style="margin-left: 20px;"><input checked="" type="checkbox"/> Operational logs                              <input checked="" type="checkbox"/> Instrument maintenance &amp; calibration  <input checked="" type="checkbox"/> Mechanical equipment maintenance    <input type="checkbox"/> Industrial Waste Contribution (Municipal facilities)</p> <u>Comments:</u>		
15. What does the operational log contain? <p style="margin-left: 20px;"><input checked="" type="checkbox"/> Visual observations    <input checked="" type="checkbox"/> Flow Measurement    <input checked="" type="checkbox"/> Laboratory results    <input checked="" type="checkbox"/> Process adjustments  <input type="checkbox"/> Control calculations    <input checked="" type="checkbox"/> Other (specify)                              <input type="checkbox"/> Monthly oil/water separator checks</p> <u>Comments:</u> Not reviewed.		
16. What do the mechanical equipment records contain? <p style="margin-left: 20px;"><input checked="" type="checkbox"/> As built plans and specs    <input checked="" type="checkbox"/> Manufacturers instructions    <input type="checkbox"/> Lubrication schedules  <input type="checkbox"/> Spare parts inventory                      <input checked="" type="checkbox"/> Equipment/parts suppliers  <input type="checkbox"/> Other (specify)                                      <input type="checkbox"/></p> <u>Comments:</u>		
17. What do the industrial waste contribution records contain (Municipal only)? <p style="margin-left: 20px;"><input type="checkbox"/> Waste characteristics    <input type="checkbox"/> Impact on plant    <input type="checkbox"/> Locations and discharge types  <input type="checkbox"/> Other (specify)                                      <input type="checkbox"/></p> <u>Comments:</u> N/A		
18. Which of the following records are kept at the plant and available to personnel? <p style="margin-left: 20px;"><input checked="" type="checkbox"/> Equipment maintenance records    <input checked="" type="checkbox"/> Operational log    <input type="checkbox"/> Industrial contributor records  <input checked="" type="checkbox"/> Instrumentation records                      <input checked="" type="checkbox"/> Sampling and testing records</p> <u>Comments:</u>		
19. List records not normally available to plant personnel and their location: <u>Comments:</u> O&M Manual maintained onsite. Records maintained electronically. Consultant keeps pH meter calibration records.		
20. Are the records maintained for the required time period (three or five years)? <u>Comments:</u>		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No

## VA DEQ Focused CEI Tech/Lab Inspection Report

Permit #

VA0054291

## UNIT PROCESS EVALUATION SUMMARY SHEET

<u>UNIT PROCESS</u>	<u>APPLICABLE</u>	<u>PROBLEMS*</u>	<u>COMMENTS</u>
Sewage Pumping			
Flow Measurement (Influent)			
Screening/Comminution			
Grit Removal			
Oil/Water Separator			
Flow Equalization			
Ponds/Lagoons	X		
Imhoff Tank			
Primary Sedimentation			
Trickling Filter			
Septic Tank and Sand Filter			
Rotating Biological Contactor			
Activated Sludge Aeration			
Biological Nutrient Removal			
Sequencing Batch Reactor			
Secondary Sedimentation			
Flocculation			
Tertiary Sedimentation			
Filtration			
Micro-Screening			
Activated Carbon Adsorption			
Chlorination			
Dechlorination			
Ozonation			
Ultraviolet Disinfection			
Post Aeration			
Flow Measurement (Effluent)			
Land Application (Effluent)			
Plant Outfall			
Oil Water Separator	X	1	The unit is in disrepair. The facility no longer uses this unit and would likely need significant work before putting it back into operation.
Sludge Pumping			
Flotation Thickening (DAF)			
Gravity Thickening			
Aerobic Digestion			
Anaerobic Digestion			
Lime Stabilization			
Centrifugation			
Sludge Press			
Vacuum Filtration			
Drying Beds			
Thermal Treatment			
Incineration			
Composting			
Land Application (Sludge)			

## \* Problem Codes

- 1. Unit Needs Attention
- 2. Abnormal Influent/Effluent
- 3. Evidence of Equipment Failure
- 4. Unapproved Modification or Temporary Repair
- 5. Evidence of Process Upset
- 6. Other (explain in comments)

# VA DEQ Focused CEI Tech/Lab Inspection Report

Permit #

VA0054291

## INSPECTION OVERVIEW AND CONDITION OF TREATMENT UNITS

The facility has submitted a permit application to combine this VPDES permit with the IMTT West permit-VA0055409 . This is an adjacent tank farm.

This tank farm has four aboveground storage tanks on site containing #2 fuel oil. On the day of inspection, only one tank contained material. Two smaller tanks will soon be used as needed for temporary storage while routine maintenance is performed on the 93,206 barrel tank. The tanks are all within an earthen dike that appeared to be sound and in good condition. Rainwater is routinely held w/in the containment until it can be sampled for pH prior to discharge. At the time of the inspection water had collected w/in the containment. The water was very clear with no evidence of oil sheen. The discharge from this containment constitutes Outfall 002.

Eight Monitoring Wells are in place – GES monitors monthly for PID and water level. Results are submitted annually to the DEQ tanks group.

Outfall 001 receives runoff from an old truck loading rack and pump area via an oil/water separator. This truck loading rack is currently not in use. Drop inlets at each end were designed to direct any spillage or contaminated runoff to a large oil water separator. Now that the truck loading rack is not in use, only incident rainfall goes to the oil/water separator. The large in-ground oil/water separator is covered; however, the cover is in poor condition and is sagging. Contents of the oil/water separator were not observed. The oil/water separator was not discharging at the time of the inspection and has reportedly not discharged in years. The unit would likely need significant work before it could be put into use.

# VA DEQ Focused CEI Tech/Lab Inspection Report

Permit #

VA0054291

## LABORATORY INSPECTION

**PRESENT DURING INSPECTION:** Jennifer LaCroix

1.	Do lab records include sampling date/time, analysis date/time, sample location, test method, test results, analyst's initials, instrument calibration and maintenance, and Certificate of Analysis?		
	<input checked="" type="checkbox"/> Sampling Date/Time <input checked="" type="checkbox"/> Analysis Date/Time <input checked="" type="checkbox"/> Sample Location <input checked="" type="checkbox"/> Test Method <input checked="" type="checkbox"/> Test Results <input checked="" type="checkbox"/> Analyst's Initials <input type="checkbox"/> Instrument Calibration & Maintenance <input checked="" type="checkbox"/> Chain of Custody <input checked="" type="checkbox"/> Certificate of Analysis		
2.	Are Discharge Monitoring Reports complete and correct? Month(s) reviewed: <div style="border: 1px solid black; padding: 2px; width: 100%;">March 2014; SemiAnnual-10/1/13-3/31/14</div>		
	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
3.	Are sample location(s) according to permit requirements (after all treatment unless otherwise specified)?		
	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
4.	Are sample collection, preservation, and holding times appropriate; and is sampling equipment adequate?		
	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5.	Are grab and composite samples representative of the flow and the nature of the monitored activity?		
	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
6.	If analysis is performed at another location, are shipping procedures adequate? List parameters and name & address of contract lab(s): <div style="border: 1px solid black; padding: 2px; width: 100%;">• JR Reed, Newport News VELAP ID: 460013</div>		
	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
8.	Are annual thermometer calibration(s) adequate?		
	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
11.	Parameters evaluated during this inspection (attach checklists):		
	<input checked="" type="checkbox"/> pH <input type="checkbox"/> Temperature <input type="checkbox"/> Total Residual Chlorine <input type="checkbox"/> Dissolved Oxygen <input type="checkbox"/> Total Suspended Solids <input type="checkbox"/> Other (specify) <div style="border: 1px solid black; width: 100%; height: 20px; margin-top: 2px;"></div> <input type="checkbox"/> Other (specify) <div style="border: 1px solid black; width: 100%; height: 20px; margin-top: 2px;"></div> <input type="checkbox"/> Other (specify) <div style="border: 1px solid black; width: 100%; height: 20px; margin-top: 2px;"></div>		
	<u>Comments:</u> pH is performed by JR Reed and Associates. Meter and calibration records are maintained by the consultant.		

# VA DEQ Focused CEI Tech/Lab Inspection Report

ANALYST:	<b>This page is intentionally blank; please use this information for reference.</b>	VPDES NO	VA0054291
----------	---	----------	-----------

Meter: \_\_\_\_\_

Parameter: Hydrogen Ion (pH)

1/08

Method: Electrometric

## METHOD OF ANALYSIS:

--

18<sup>th</sup> Edition of Standard Methods – 4500-H<sup>+</sup> B

21<sup>st</sup> or Online Editions of Standard Methods – 4500-H<sup>+</sup> B (00)

<b>pH is a method-defined analyte so modifications are not allowed. [40 CFR Part 136.6]</b>		<b>Y</b>	<b>N</b>
1) Is a certificate of operator competence or initial demonstration of capability available for <u>each analyst/operator</u> performing this analysis? <b>NOTE:</b> Analyze 4 samples of known pH. May use external source of buffer (different lot/manufacturer than buffers used to calibrate meter). Recovery for each of the 4 samples must be +/- 0.1 SU of the known concentration of the sample. [SM 1020 B.1]			
2) Is the electrode in good condition (no chloride precipitate, scratches, deterioration, etc.)? [2.b/c and 5.b]			
3) Is electrode storage solution in accordance with manufacturer's instructions? [Mfr.]			
4) Is meter calibrated on at least a daily basis using three buffers all of which are at the same temperature? [4.a] <b>NOTE:</b> Follow manufacturer's instructions.			
5) After calibration, is a buffer analyzed as a check sample to verify that calibration is correct? Agreement should be within +/- 0.1 SU. [4.a]			
6) Do the buffer solutions appear to be free of contamination or growths? [3.1]			
7) Are buffer solutions within the listed shelf-life or have they been prepared within the last 4 weeks? [3.a]			
8) Is the cap or sleeve covering the access hole on the reference electrode removed when measuring pH? [Mfr.]			
9) For meters with ATC that also have temperature display, is the thermometer verified annually? [SM 2550 B.1]			
10) Is temperature of buffer solutions and samples recorded when determining pH? [4.a]			
11) Is sample analyzed within 15 minutes of collections? [40 CFR Part 136]			
12) Is the electrode rinsed and then blotted dry between reading solutions (Disregard if a portion of the next sample analyzed is used as the rinsing solution.)? [4.a]			
13) Is the sample stirred gently at a constant speed during measurement? [4.b]			
14) Does the meter hold a steady reading after reaching equilibrium? [4.b]			

## PROBLEMS:

1. In May 2012, EPA issued a final rule to approve several new or revised analytical methods for measuring regulated pollutants in wastewater. This rule is also called the Methods Update Rule (MUR). One of the changes in this MUR is the naming convention used for citing Standard Methods. Citing the edition of Standard Methods is no longer applicable; now the citation must include the "date tag" in which the method was approved. Also note that for pH, D.O. and TRC, the 18<sup>th</sup> and 19<sup>th</sup> Editions of Standard Methods are no longer approved. Only the 20<sup>th</sup>, 21<sup>st</sup> and online Editions are approved. The current method citations are:

pH: SM4500-H<sup>+</sup> B -2000

*Please update laboratory records and benchesheets to reflect this change in citing test methods.*

## VA DEQ Focused CEI Tech/Lab Inspection Report

Permit # VA0054291

EFFLUENT FIELD DATA: No Discharge at the time of inspection.

Flow	<input type="text"/>	MGD	Dissolved Oxygen	<input type="text"/>	mg/L	TRC (Contact Tank)	<input type="text"/>	mg/L
pH	<input type="text"/>	S.U.	Temperature	<input type="text"/>	°C	TRC (Final Effluent)	<input type="text"/>	mg/L

Was a Sampling Inspection conducted?  Yes (see Sampling Inspection Report)  No

## CONDITION OF OUTFALL AND EFFLUENT CHARACTERISTICS:

1. Type of outfall:

 Shore based  Submerged

Diffuser?

 Yes  No

2. Are the outfall and supporting structures in good condition?

 Yes  No3. Final Effluent (evidence of following problems): **No Discharge.** Sludge bar  Grease  Turbid effluent  Visible foam  Unusual color  
 Oil sheen4. Is there a visible effluent plume in the receiving stream? **No Discharge.** Yes  No

5. Receiving stream:

 No observed problems  Indication of problems (explain below)Comments:

## REQUEST for CORRECTIVE ACTION:

1. None.

## NOTES and COMMENTS:

The site was in good condition. No spills or leaks were observed. Ms. LaCroix is very knowledgeable and conscientious about stormwater pollution prevention.

# VA DEQ Focused CEI Tech/Lab Inspection Report

Permit #

VA0054291

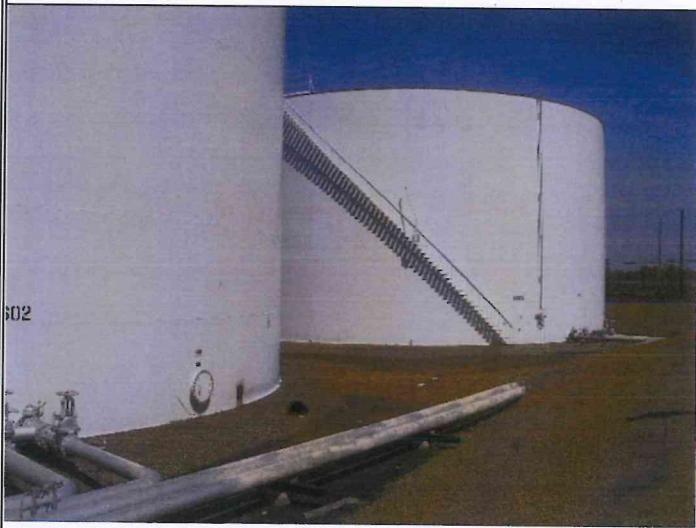
Digital Photos taken on 4/17/14



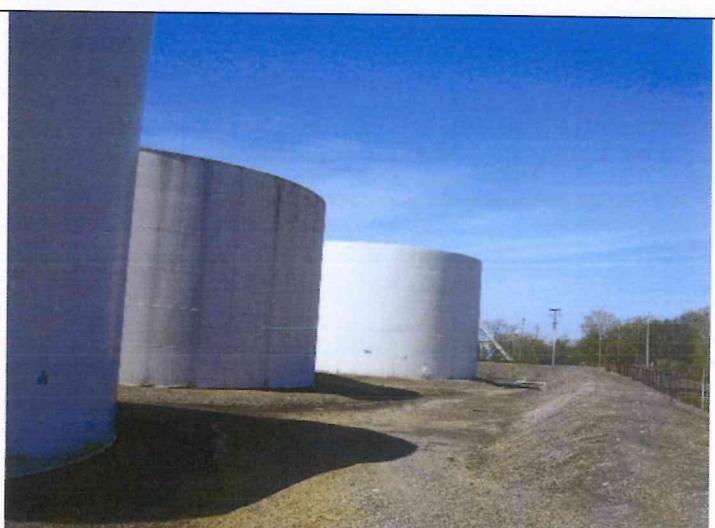
Photograph 1: Truck rack



Photograph 2: Storage Yard



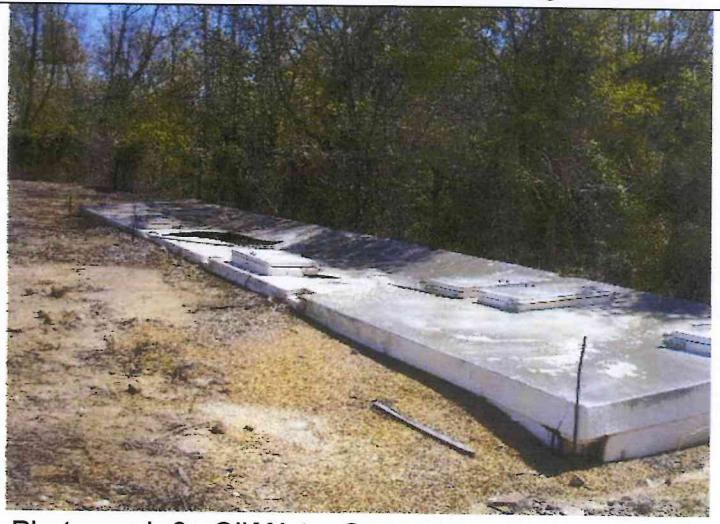
Photograph 3: Tank farm overview facing north



Photograph 4: Tank farm overview facing west



Photograph 5: Stormwater holding basin



Photograph 6: Oil/Water Separator

# VA DEQ Focused CEI Tech/Lab Inspection Report

Permit #

VA0054291

Digital Photos taken on 4/17/14



Photograph 7: Vicinity of Outfall 001



Photograph 8: Outfall 002 (submerged)

**Attachment D**  
**Data Analyses**

IMTT Virginia - DMR Data Outfall 001

Outfall	Parameter	Quant	Avg	Quanti	Max	Conc	Avg	Conc	Min	Conc	Max	Received
	pH	NULL	NULL	NULL	NULL	NULL	7.4	7.4	7.4	NULL	5-Apr-11	
		NULL	NULL	NULL	NULL	NULL	6.8	6.8	6.8	NULL	2-May-11	
		NULL	NULL	NULL	NULL	NULL	6.9	6.9	6.9	NULL	1-Jul-11	
		NULL	NULL	NULL	NULL	NULL	NR	NR	NR	NULL	1-Aug-11	
		NULL	NULL	NULL	NULL	NULL	7.2	7.2	7.2	NULL	1-Sep-11	
		NULL	NULL	NULL	NULL	NULL	7.2	7.2	7.2	NULL	3-Oct-11	
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	3-Nov-11	
		NULL	NULL	NULL	NULL	NULL	7.9	7.9	7.9	NULL	21-Nov-11	
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	4-Jan-12	
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	3-Feb-12	
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	5-Mar-12	
		NULL	NULL	NULL	NULL	NULL	7.9	7.9	7.9	NULL	2-Apr-12	
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	1-May-12	
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	1-Jun-12	
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	2-Jul-12	
		NULL	NULL	NULL	NULL	NULL	7.2	7.2	7.2	NULL	2-Aug-12	
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	5-Sep-12	
		NULL	NULL	NULL	NULL	NULL	7.4	7.4	7.4	NULL	9-Oct-12	
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	6-Nov-12	
		NULL	NULL	NULL	NULL	NULL	7.4	7.4	7.4	NULL	3-Dec-12	
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	3-Jan-13	
		NULL	NULL	NULL	NULL	NULL	7.6	7.6	7.6	NULL	1-Feb-13	
		NULL	NULL	NULL	NULL	NULL	7.7	7.7	7.7	NULL	8-Mar-13	
		NULL	NULL	NULL	NULL	NULL	7.3	7.3	7.3	NULL	2-Apr-13	
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	1-May-13	
		NULL	NULL	NULL	NULL	NULL	7.2	7.2	7.2	NULL	22-May-13	
		NULL	NULL	NULL	NULL	NULL	7.1	7.1	7.1	NULL	2-Jul-13	
		NULL	NULL	NULL	NULL	NULL	7.6	7.6	7.6	NULL	26-Jul-13	
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	10-Sep-13	
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	1-Oct-13	
		NULL	NULL	NULL	NULL	NULL	8.4	8.4	8.4	NULL	5-Nov-13	
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	3-Dec-13	
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	2-Jan-14	
		NULL	NULL	NULL	NULL	NULL	6.4	6.4	6.4	NULL	4-Feb-14	
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	3-Mar-14	
		NULL	NULL	NULL	NULL	NULL	6.9	6.9	6.9	NULL	4-Apr-14	
						pH	<b>90th</b>	<b>7.90</b>				
						pH	<b>10th</b>	<b>6.80</b>				
<b>CARBON, TOTAL</b>												
<b>ORGANIC</b>		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	4-Oct-10	
		NULL	NULL	NULL	NULL	NULL	NULL	5.9	5.9	NULL	25-Oct-10	
		NULL	NULL	NULL	NULL	NULL	NULL	7.7	7.7	NULL	2-Dec-10	
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	3-Jan-11	
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	2-Feb-11	
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	1-Mar-11	
		NULL	NULL	NULL	NULL	NULL	NULL	7.6	7.6	NULL	5-Apr-11	
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	2-May-11	
		NULL	NULL	NULL	NULL	NULL	NULL	8.1	8.1	NULL	3-Jun-11	
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	1-Jul-11	
		NULL	NULL	NULL	NULL	NULL	NULL	6.1	6.1	NULL	1-Aug-11	

Outfall	Parameter	Quant Avg	Quanti Max	Conc Avg	Conc Min	Conc Max	Received
	<b>CARBON, TOTAL ORGANIC</b>	NULL	NULL	NULL	NULL	NR	1-Sep-11
		NULL	NULL	NULL	NULL	4.5	3-Oct-11
		NULL	NULL	NULL	NULL	NULL	3-Nov-11
		NULL	NULL	NULL	NULL	6.1	21-Nov-11
		NULL	NULL	NULL	NULL	NULL	4-Jan-12
		NULL	NULL	NULL	NULL	NULL	3-Feb-12
		NULL	NULL	NULL	NULL	NULL	5-Mar-12
		NULL	NULL	NULL	NULL	5.7	2-Apr-12
		NULL	NULL	NULL	NULL	NULL	1-May-12
		NULL	NULL	NULL	NULL	NULL	1-Jun-12
		NULL	NULL	NULL	NULL	NULL	2-Jul-12
		NULL	NULL	NULL	NULL	6.2	2-Aug-12
		NULL	NULL	NULL	NULL	NULL	5-Sep-12
		NULL	NULL	NULL	NULL	6.6	9-Oct-12
		NULL	NULL	NULL	NULL	NULL	6-Nov-12
		NULL	NULL	NULL	NULL	2.0	3-Dec-12
		NULL	NULL	NULL	NULL	NULL	3-Jan-13
		NULL	NULL	NULL	NULL	1.8	1-Feb-13
		NULL	NULL	NULL	NULL	2.9	8-Mar-13
		NULL	NULL	NULL	NULL	2.1	2-Apr-13
		NULL	NULL	NULL	NULL	NULL	1-May-13
		NULL	NULL	NULL	NULL	4.7	22-May-13
		NULL	NULL	NULL	NULL	4.9	2-Jul-13
		NULL	NULL	NULL	NULL	3.7	26-Jul-13
		NULL	NULL	NULL	NULL	NULL	10-Sep-13
		NULL	NULL	NULL	NULL	NULL	1-Oct-13
		NULL	NULL	NULL	NULL	2.6	5-Nov-13
		NULL	NULL	NULL	NULL	NULL	3-Dec-13
		NULL	NULL	NULL	NULL	NULL	2-Jan-14
		NULL	NULL	NULL	NULL	2.4	4-Feb-14
		NULL	NULL	NULL	NULL	NULL	3-Mar-14
		NULL	NULL	NULL	NULL	2.5	4-Apr-14
	<b>HARDNESS, TOTAL</b>	NULL	NULL	8.0	8.0	NULL	8-Jan-10
		NULL	NULL	0.103	0.103	NULL	3-Oct-11
		NULL	NULL	15.9	15.9	NULL	3-Apr-12
		NULL	NULL	10.7	10.7	NULL	1-Oct-13
	<b>ZINC, TOTAL RECOVERABLE</b>	NULL	NULL	40	NULL	40	6-Dec-10
		NULL	NULL	39	NULL	39	3-Jun-11
		NULL	NULL	55	NULL	55	5-Dec-11
		NULL	NULL	42	NULL	42	7-Jun-12
		NULL	NULL	67	NULL	67	10-Dec-12
		NULL	NULL	26	NULL	26	10-May-13
		NULL	NULL	93	NULL	93	10-Dec-13

Outfall	Parameter	Quant Avg	Quanti Max	Conc Avg	Conc Min	Conc Max	Received
	<b>CADMUM, TOTAL RECOVERABLE</b>	NULL	NULL	0.2	NULL	0.2	6-Dec-10
		NULL	NULL	<QL	NULL	<QL	3-Jun-11
		NULL	NULL	<QL	NULL	<QL	5-Dec-11
		NULL	NULL	<QL	NULL	<QL	7-Jun-12
		NULL	NULL	0.5	NULL	0.5	10-Dec-12
		NULL	NULL	<QL	NULL	<QL	10-May-13
		NULL	NULL	1.2	NULL	1.2	10-Dec-13
	<b>COPPER, TOTAL RECOVERABLE</b>	NULL	NULL	3.6	NULL	3.6	6-Dec-10
		NULL	NULL	3.6	NULL	3.6	3-Jun-11
		NULL	NULL	3.0	NULL	3.0	5-Dec-11
		NULL	NULL	4.0	NULL	4.0	7-Jun-12
		NULL	NULL	6.0	NULL	6.0	10-Dec-12
		NULL	NULL	2.0	NULL	2.0	10-May-13
		NULL	NULL	9.0	NULL	9.0	10-Dec-13
	<b>LEAD, TOTAL RECOVERABLE</b>	NULL	NULL	8.0	NULL	8.0	7-Jun-12
		NULL	NULL	22	NULL	22	10-Dec-12
		NULL	NULL	3.0	NULL	3.0	10-May-13
		NULL	NULL	105	NULL	105	10-Dec-13
	<b>PETROLEUM HYDROCARBONS, TOTAL RECOVERABLE</b>	NULL	NULL	NULL	NULL	NULL	4-Oct-10
		NULL	NULL	NULL	NULL	< 0.50	25-Oct-10
		NULL	NULL	NULL	NULL	<0.50	2-Dec-10
		NULL	NULL	NULL	NULL	NULL	3-Jan-11
		NULL	NULL	NULL	NULL	NULL	2-Feb-11
		NULL	NULL	NULL	NULL	NULL	1-Mar-11
		NULL	NULL	NULL	NULL	<0.5	5-Apr-11
		NULL	NULL	NULL	NULL	NULL	2-May-11
		NULL	NULL	NULL	NULL	0.85	3-Jun-11
		NULL	NULL	NULL	NULL	NULL	1-Jul-11
		NULL	NULL	NULL	NULL	<QL	1-Aug-11
		NULL	NULL	NULL	NULL	NR	1-Sep-11
		NULL	NULL	NULL	NULL	<0.5	3-Oct-11
		NULL	NULL	NULL	NULL	NULL	3-Nov-11
		NULL	NULL	NULL	NULL	<0.50	21-Nov-11
		NULL	NULL	NULL	NULL	NULL	4-Jan-12
		NULL	NULL	NULL	NULL	NULL	3-Feb-12
		NULL	NULL	NULL	NULL	NULL	5-Mar-12
		NULL	NULL	NULL	NULL	< 1.0	2-Apr-12
		NULL	NULL	NULL	NULL	NULL	1-May-12
		NULL	NULL	NULL	NULL	NULL	1-Jun-12
		NULL	NULL	NULL	NULL	NULL	2-Jul-12
		NULL	NULL	NULL	NULL	<0.50	2-Aug-12
		NULL	NULL	NULL	NULL	NULL	5-Sep-12
		NULL	NULL	NULL	NULL	<0.5	9-Oct-12

Outfall	Parameter	Quant	Avg	Quanti	Max	Conc	Avg	Conc	Min	Conc	Max	Received
	<b>PETROLEUM</b>											
	<b>HYDROCARBONS,</b>											
	<b>TOTAL</b>											
	<b>RECOVERABLE</b>											
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	6-Nov-12
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	<0.50	NULL	NULL	3-Dec-12
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	3-Jan-13
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	<0.5	NULL	NULL	1-Feb-13
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	<0.5	NULL	NULL	8-Mar-13
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	<0.5	NULL	NULL	2-Apr-13
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	1-May-13
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	<0.5	NULL	NULL	22-May-13
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	<0.5	NULL	NULL	2-Jul-13
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	<0.5	NULL	NULL	26-Jul-13
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	10-Sep-13
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	1-Oct-13
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	<0.50	NULL	NULL	5-Nov-13
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	3-Dec-13
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	2-Jan-14
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	<0.50	NULL	NULL	4-Feb-14
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	3-Mar-14
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	<0.5	NULL	NULL	4-Apr-14
	<b>TUa - ACUTE 48 HR</b>											
	<b>STAT</b>											
	<b>CERIODAPHNIA</b>											
	<b>DUBIA</b>											
		NULL	NULL	1.0	NULL	NULL	1.0	NULL	1.0	6-Dec-10		
		NULL	NULL	1.0	NULL	NULL	1.0	NULL	1.0	3-Jun-11		
		NULL	NULL	1.0	NULL	NULL	1.0	NULL	1.0	5-Dec-11		
		NULL	NULL	1.0	NULL	NULL	1.0	NULL	1.0	7-Jun-12		
		NULL	NULL	1.0	NULL	NULL	1.0	NULL	1.0	10-Dec-12		
		NULL	NULL	1.0	NULL	NULL	1.0	NULL	1.0	10-May-13		
		NULL	NULL	1.0	NULL	NULL	1.0	NULL	1.0	10-Dec-13		
	<b>TUa - ACUTE 48 HR</b>											
	<b>STAT PIMEPHALES</b>											
	<b>PROMELAS</b>											
		NULL	NULL	1.0	NULL	NULL	1.0	NULL	1.0	6-Dec-10		
		NULL	NULL	1.0	NULL	NULL	1.0	NULL	1.0	3-Jun-11		
		NULL	NULL	1.0	NULL	NULL	1.0	NULL	1.0	5-Dec-11		
		NULL	NULL	1.0	NULL	NULL	1.0	NULL	1.0	7-Jun-12		
		NULL	NULL	1.0	NULL	NULL	1.0	NULL	1.0	10-Dec-12		
		NULL	NULL	1.0	NULL	NULL	1.0	NULL	1.0	10-May-13		
		NULL	NULL	1.0	NULL	NULL	1.0	NULL	1.0	10-Dec-13		

**IMTT Virginia - DMR DATA Outfall 002**

<b>Outfall Parameter</b>	<b>Quant</b>	<b>Avg</b>	<b>Quanti Max</b>	<b>Conc</b>	<b>Avg</b>	<b>Conc Min</b>	<b>Conc Max</b>	<b>Received</b>
pH	NULL	NULL	NULL	7.4	7.4	25-Oct-10		
	NULL	NULL	NULL	NULL	NULL	2-Dec-10		
	NULL	NULL	NULL	NULL	NULL	3-Jan-11		
	NULL	NULL	NULL	NULL	NULL	2-Feb-11		
	NULL	NULL	NULL	7.1	7.1	1-Mar-11		
	NULL	NULL	NULL	7.3	7.3	5-Apr-11		
	NULL	NULL	NULL	NULL	NULL	2-May-11		
	NULL	NULL	NULL	6.8	6.8	3-Jun-11		
	NULL	NULL	NULL	NULL	NULL	1-Jul-11		
	NULL	NULL	NULL	7.1	7.1	1-Aug-11		
	NULL	NULL	NULL	NR	NR	1-Sep-11		
	NULL	NULL	NULL	7.1	7.1	4-Oct-11		
	NULL	NULL	NULL	NULL	NULL	3-Nov-11		
	NULL	NULL	NULL	7.8	7.8	21-Nov-11		
	NULL	NULL	NULL	NULL	NULL	4-Jan-12		
	NULL	NULL	NULL	7.5	7.5	3-Feb-12		
	NULL	NULL	NULL	NULL	NULL	5-Mar-12		
	NULL	NULL	NULL	7.7	7.7	2-Apr-12		
	NULL	NULL	NULL	NULL	NULL	1-May-12		
	NULL	NULL	NULL	7.2	7.2	4-Jun-12		
	NULL	NULL	NULL	NULL	NULL	2-Jul-12		
	NULL	NULL	NULL	7.3	7.3	2-Aug-12		
	NULL	NULL	NULL	NULL	NULL	5-Sep-12		
	NULL	NULL	NULL	7.7	7.7	2-Oct-12		
	NULL	NULL	NULL	NULL	NULL	5-Nov-12		
	NULL	NULL	NULL	7.1	7.1	3-Dec-12		
	NULL	NULL	NULL	NULL	NULL	3-Jan-13		
	NULL	NULL	NULL	7.6	7.6	1-Feb-13		
	NULL	NULL	NULL	7.4	7.4	8-Mar-13		
	NULL	NULL	NULL	7.3	7.3	2-Apr-13		
	NULL	NULL	NULL	NULL	NULL	1-May-13		
	NULL	NULL	NULL	7.1	7.1	22-May-13		
	NULL	NULL	NULL	7.6	7.6	28-Jun-13		
	NULL	NULL	NULL	7.3	7.3	1-Aug-13		
	NULL	NULL	NULL	7.6	7.6	10-Sep-13		
	NULL	NULL	NULL	NULL	NULL	1-Oct-13		
	NULL	NULL	NULL	NULL	NULL	5-Nov-13		
	NULL	NULL	NULL	NULL	NULL	3-Dec-13		
	NULL	NULL	NULL	NULL	NULL	2-Jan-14		
	NULL	NULL	NULL	6.5	6.58	4-Feb-14		
	NULL	NULL	NULL	NULL	NULL	3-Mar-14		
	NULL	NULL	NULL	7.1	7.1	4-Apr-14		
		<b>pH</b>		<b>90th</b>	<b>7.69</b>			
				<b>10th</b>	<b>7.1</b>			
CARBON, TOTAL ORGANIC	NULL	NULL	NULL	NULL	NULL	2-Jun-10		
	NULL	NULL	NULL	NULL	NULL	1-Jul-10		
	NULL	NULL	NULL	NULL	NULL	6-Aug-10		
	NULL	NULL	NULL	NULL	NULL	3-Sep-10		
	NULL	NULL	NULL	NULL	NULL	4-Oct-10		
	NULL	NULL	NULL	NULL	4.1	25-Oct-10		
	NULL	NULL	NULL	NULL	NULL	2-Dec-10		
	NULL	NULL	NULL	NULL	NULL	3-Jan-11		



<b>Outfall</b>	<b>Parameter</b>	<b>Quant</b>	<b>Avg</b>	<b>Quanti</b>	<b>Max</b>	<b>Conc</b>	<b>Avg</b>	<b>Conc Min</b>	<b>Conc Max</b>	<b>Received</b>
<b>PETROLEUM</b>  <b>HYDROCARBONS,</b> <b>TOTAL</b>  <b>RECOVERABLE</b>	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	3-Sep-10
	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	4-Oct-10
	NULL	NULL	NULL	NULL	NULL	0.56	NULL	25-Oct-10	NULL	
	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	2-Dec-10
	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	3-Jan-11
	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	2-Feb-11
	NULL	NULL	NULL	NULL	NULL	0.55	NULL	NULL	NULL	1-Mar-11
	NULL	NULL	NULL	NULL	NULL	<1.0	NULL	NULL	NULL	5-Apr-11
	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	2-May-11
	NULL	NULL	NULL	NULL	NULL	0.96	NULL	NULL	NULL	3-Jun-11
	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	1-Jul-11
	NULL	NULL	NULL	NULL	NULL	<1.0	NULL	NULL	NULL	1-Aug-11
	NULL	NULL	NULL	NULL	NULL	NR	NULL	NULL	NULL	1-Sep-11
	NULL	NULL	NULL	NULL	NULL	<1.0	NULL	NULL	NULL	4-Oct-11
	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	3-Nov-11
	NULL	NULL	NULL	NULL	NULL	<1	NULL	NULL	NULL	21-Nov-11
	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	4-Jan-12
	NULL	NULL	NULL	NULL	NULL	<1.0	NULL	NULL	NULL	3-Feb-12
	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	5-Mar-12
	NULL	NULL	NULL	NULL	NULL	< 1.0	NULL	NULL	NULL	2-Apr-12
	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	1-May-12
	NULL	NULL	NULL	NULL	NULL	<1.0	NULL	NULL	NULL	4-Jun-12
	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	2-Jul-12
	NULL	NULL	NULL	NULL	NULL	<1.0	NULL	NULL	NULL	2-Aug-12
	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	5-Sep-12
	NULL	NULL	NULL	NULL	NULL	<1.0	NULL	NULL	NULL	2-Oct-12
	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	5-Nov-12
	NULL	NULL	NULL	NULL	NULL	<1.0	NULL	NULL	NULL	3-Dec-12
	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	3-Jan-13
	NULL	NULL	NULL	NULL	NULL	<1.0	NULL	NULL	NULL	1-Feb-13
	NULL	NULL	NULL	NULL	NULL	<1.0	NULL	NULL	NULL	8-Mar-13
	NULL	NULL	NULL	NULL	NULL	<1.0	NULL	NULL	NULL	2-Apr-13
	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	1-May-13
	NULL	NULL	NULL	NULL	NULL	<1.0	NULL	NULL	NULL	22-May-13
	NULL	NULL	NULL	NULL	NULL	<1.0	NULL	NULL	NULL	28-Jun-13
	NULL	NULL	NULL	NULL	NULL	<1.0	NULL	NULL	NULL	1-Aug-13
	NULL	NULL	NULL	NULL	NULL	<1.0	NULL	NULL	NULL	10-Sep-13
	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	1-Oct-13
	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	5-Nov-13
	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	3-Dec-13
	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	2-Jan-14
	NULL	NULL	NULL	NULL	NULL	<1.0	NULL	NULL	NULL	4-Feb-14
	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	3-Mar-14
	NULL	NULL	NULL	NULL	NULL	<1.0	NULL	NULL	NULL	4-Apr-14
  <b>COPPER,</b> <b>DISSOLVED</b>	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	4-Oct-10
	NULL	NULL	6.0	6.0	7.0	NULL	NULL	NULL	NULL	5-Apr-11
	NULL	NULL	6.0	6.0	6.0	NULL	NULL	NULL	NULL	4-Oct-11
	NULL	NULL	6.0	6.0	6.0	NULL	NULL	NULL	NULL	2-Apr-12

Outfall Parameter	Quant	Avg	Quanti	Max	Conc	Avg	Conc	Min	Conc	Max	Received
COPPER, DISSOLVED	NULL	NULL		8.0	8.0		8.0		8.0		2-Oct-12
	NULL	NULL		5.0	5.0		5.0		5.0		2-Apr-13
	NULL	NULL		8.0	8.0		8.0		8.0		1-Oct-13
	NULL	NULL		<QL	<QL		<QL		<QL		4-Feb-14
ZINC, DISSOLVED	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	4-Oct-10	
	NULL	NULL	10.5	5		16				5-Apr-11	
	NULL	NULL	<5.0	<5.0		<5.0				4-Oct-11	
	NULL	NULL	7	7		7				2-Apr-12	
	NULL	NULL	<5	<5		<5				2-Oct-12	
	NULL	NULL	8	8		8				2-Apr-13	
	NULL	NULL	<QL	<QL		<QL				1-Oct-13	
	NULL	NULL	34	34		34				4-Feb-14	

IMTT Virginia - DMR DATA Outfall 003

Outfall	Parameter	Quant	Avg	Quanti	Max	Conc	Avg	Conc	Min	Conc	Max	Received
003	FLOW	NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	2-Jun-10		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	1-Jul-10		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	6-Aug-10		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	3-Sep-10		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	4-Oct-10		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	25-Oct-10		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	2-Dec-10		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	3-Jan-11		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	2-Feb-11		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	1-Mar-11		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	5-Apr-11		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	2-May-11		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	3-Jun-11		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	1-Jul-11		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	1-Aug-11		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	1-Sep-11		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	4-Oct-11		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	3-Nov-11		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	21-Nov-11		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	4-Jan-12		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	3-Feb-12		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	5-Mar-12		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	2-Apr-12		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	1-May-12		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	4-Jun-12		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	2-Jul-12		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	2-Aug-12		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	5-Sep-12		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	2-Oct-12		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	5-Nov-12		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	3-Dec-12		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	3-Jan-13		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	1-Feb-13		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	8-Mar-13		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	2-Apr-13		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	1-May-13		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	22-May-13		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	28-Jun-13		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	1-Aug-13		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	10-Sep-13		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	1-Oct-13		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	5-Nov-13		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	3-Dec-13		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	2-Jan-14		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	4-Feb-14		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	3-Mar-14		
		NULL	NULL	NULL	NULL	NULL	NULL	NULL	NULL	4-Apr-14		









**VA0055409 – IMTT VIRGINIA**

**MSTRANTI DATA SOURCE REPORT**

<b>Stream Information</b>	
Mean Hardness	Water Quality Criteria Monitoring
90% Temperature (annual)	Conservative estimate based on Permit Writer Judgment
90% Maximum pH	Dry ditch; effluent data used to characterize receiving stream
10% Maximum pH	
<b>Stream Flows</b>	
All Data	1Q10 set equal to 1MGD as is procedure for calculating 2xWLAa in conjunction with discharge flow
<b>Mixing Information</b>	
All Data	When using MSTRANTI to calculate 2 x the acute WQS, 100% mixing is used for the calculation.
<b>Effluent Information</b>	
Mean Hardness	Water Quality Criteria Monitoring
90% Temperature (annual)	Conservative estimate based on Permit Writer Judgment
90% Maximum pH	DMR data from 2010 to 2014 (Attachment D).
10% Maximum pH	DMR data from 2010 to 2014 (Attachment D).
Discharge Flow	Equal to 1 MGD in order to calculate 2xWLAa in conjunction with 1Q10

## FRESHWATER WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: IMTT Virginia - Outfall 001

Permit No.: VA0055409

Receiving Stream: UT James River

Version: OWP Guidance Memo 00-2011 (8/24/00)

**Stream Information**

Mean Hardness (as CaCO <sub>3</sub> ) =	25 mg/L	1Q10 (Annual) =	1 MGD
90% Temperature (Annual) =	28 deg C	7Q10 (Annual) =	MGD
90% Temperature (Wet season) =	deg C	30Q10 (Annual) =	MGD
90% Maximum pH =	7.9 SU	1Q10 (Wet season) =	MGD
10% Maximum pH =	6.8 SU	30Q10 (Wet season) =	MGD
Tier Designation (1 or 2) =	1	30Q5 =	MGD
Public Water Supply (PWS) Y/N? =	n	Harmonic Mean =	MGD
Trout Present Y/N? =	n		
Early Life Stages Present Y/N? =	Y		

**Stream Flows**

1Q10 (Annual) =		1 MGD	
7Q10 (Annual) =		MGD	
30Q10 (Annual) =		MGD	
1Q10 (Wet season) =		MGD	
30Q10 (Wet season) =		MGD	
30Q5 =		MGD	
Harmonic Mean =		MGD	

**Mixing Information**

Annual - 1Q10 Mix =	100 %
- 7Q10 Mix =	%
- 30Q10 Mix =	%
Wet Season - 1Q10 Mix =	%
- 30Q10 Mix =	%

**Effluent Information**

Mean Hardness (as CaCO <sub>3</sub> ) =	25 mg/L
90% Temp (Annual) =	28 deg C
90% Temp (Wet season) =	deg C
90% Maximum pH =	7.9 SU
10% Maximum pH =	6.8 SU
Discharge Flow =	1 MGD

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations				
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	
Acenaphthene	0	--	--	na	9.9E+02	--	--	na	9.9E+02	--	--	--	--	--	--	--	--	--	--	na	9.9E+02	
Acrolein	0	--	--	na	9.3E+00	--	--	na	9.3E+00	--	--	--	--	--	--	--	--	--	--	na	9.3E+00	
Acrylonitrile <sup>c</sup>	0	--	--	na	2.5E+00	--	--	na	2.5E+00	--	--	--	--	--	--	--	--	--	--	na	2.5E+00	
Aldrin <sup>c</sup>	0	3.0E+00	--	na	5.0E-04	6.0E+00	--	na	5.0E-04	--	--	--	--	--	--	--	--	--	6.0E+00	--	na	5.0E-04
Ammonia-N (mg/l) (Yearly)	0	1.01E+01	1.17E+00	na	--	2.03E+01	1.17E+00	na	--	--	--	--	--	--	--	--	--	--	2.03E+01	1.17E+00	na	--
Ammonia-N (mg/l) (High Flow)	0	1.01E+01	2.80E+00	na	--	1.01E+01	2.80E+00	na	--	--	--	--	--	--	--	--	--	--	1.01E+01	2.80E+00	na	--
Anthracene	0	--	--	na	4.0E+04	--	--	na	4.0E+04	--	--	--	--	--	--	--	--	--	--	na	4.0E+04	
Antimony	0	--	--	na	6.4E+02	--	--	na	6.4E+02	--	--	--	--	--	--	--	--	--	--	na	6.4E+02	
Arsenic	0	3.4E+02	1.5E+02	na	--	6.8E+02	1.5E+02	na	--	--	--	--	--	--	--	--	--	--	6.8E+02	1.5E+02	na	--
Barium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--	
Benzene <sup>c</sup>	0	--	--	na	5.1E+02	--	--	na	5.1E+02	--	--	--	--	--	--	--	--	--	--	na	5.1E+02	
Benzidine <sup>c</sup>	0	--	--	na	2.0E-03	--	--	na	2.0E-03	--	--	--	--	--	--	--	--	--	--	na	2.0E-03	
Benzo (a) anthracene <sup>c</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01	
Benzo (b) fluoranthene <sup>c</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01	
Benzo (k) fluoranthene <sup>c</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01	
Benzo (a) pyrene <sup>c</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01	
Bis2-Chloroethyl Ether <sup>c</sup>	0	--	--	na	5.3E+00	--	--	na	5.3E+00	--	--	--	--	--	--	--	--	--	--	na	5.3E+00	
Bis2-Chloroisopropyl Ether	0	--	--	na	6.5E+04	--	--	na	6.5E+04	--	--	--	--	--	--	--	--	--	--	na	6.5E+04	
Bis 2-Ethylhexyl Phthalate <sup>c</sup>	0	--	--	na	2.2E+01	--	--	na	2.2E+01	--	--	--	--	--	--	--	--	--	--	na	2.2E+01	
Bromoform <sup>c</sup>	0	--	--	na	1.4E+03	--	--	na	1.4E+03	--	--	--	--	--	--	--	--	--	--	na	1.4E+03	
Butylbenzylphthalate	0	--	--	na	1.9E+03	--	--	na	1.9E+03	--	--	--	--	--	--	--	--	--	--	na	1.9E+03	
Cadmium	0	8.2E-01	3.8E-01	na	--	1.6E+00	3.8E-01	na	--	--	--	--	--	--	--	--	--	1.6E+00	3.8E-01	na	--	
Carbon Tetrachloride <sup>c</sup>	0	--	--	na	1.6E+01	--	--	na	1.6E+01	--	--	--	--	--	--	--	--	--	--	na	1.6E+01	
Chlordane <sup>c</sup>	0	2.4E+00	4.3E-03	na	8.1E-03	4.8E+00	4.3E-03	na	8.1E-03	--	--	--	--	--	--	--	--	4.8E+00	4.3E-03	na	8.1E-03	
Chloride	0	8.6E+05	2.3E+05	na	--	1.7E+06	2.3E+05	na	--	--	--	--	--	--	--	--	--	1.7E+06	2.3E+05	na	--	
TRC	0	1.9E+01	1.1E+01	na	--	3.8E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	3.8E+01	1.1E+01	na	--	
Chlorobenzene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	--	--	na	1.6E+03	

Parameter (ug/l unless noted)	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations				
		Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane <sup>c</sup>	0	--	--	--	na	1.3E+02	--	--	na	1.3E+02	--	--	--	--	--	--	--	--	--	--	na	1.3E+02
Chloroform	0	--	--	--	na	1.1E+04	--	--	na	1.1E+04	--	--	--	--	--	--	--	--	--	--	na	1.1E+04
2-Chloronaphthalene	0	--	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	--	--	na	1.6E+03
2-Chlorophenol	0	--	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+02
Chloryrifos	0	8.3E-02	4.1E-02	na	--	1.7E-01	4.1E-02	na	--	--	--	--	--	--	--	--	--	--	1.7E-01	4.1E-02	na	--
Chromium III	0	1.8E+02	2.4E+01	na	--	3.7E+02	2.4E+01	na	--	--	--	--	--	--	--	--	--	--	3.7E+02	2.4E+01	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	3.2E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	--	3.2E+01	1.1E+01	na	--
Chromium, Total	0	--	--	--	1.0E+02	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Chrysene <sup>c</sup>	0	--	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	--	--	--	--	--	--	--	--	na	1.8E-02
Copper	0	3.6E+00	2.7E+00	na	--	7.3E+00	2.7E+00	na	--	--	--	--	--	--	--	--	--	--	7.3E+00	2.7E+00	na	--
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	4.4E+01	5.2E+00	na	1.6E+04	--	--	--	--	--	--	--	--	--	4.4E+01	5.2E+00	na	1.6E+04
DDD <sup>c</sup>	0	--	--	--	na	3.1E-03	--	--	na	3.1E-03	--	--	--	--	--	--	--	--	--	--	na	3.1E-03
DDE <sup>c</sup>	0	--	--	--	na	2.2E-03	--	--	na	2.2E-03	--	--	--	--	--	--	--	--	--	--	na	2.2E-03
DDT <sup>c</sup>	0	1.1E+00	1.0E-03	na	2.2E-03	2.2E+00	1.0E-03	na	2.2E-03	--	--	--	--	--	--	--	--	--	2.2E+00	1.0E-03	na	2.2E-03
Demeton	0	--	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Diazinon	0	1.7E-01	1.7E-01	na	--	3.4E-01	1.7E-01	na	--	--	--	--	--	--	--	--	--	--	3.4E-01	1.7E-01	na	--
Dibenz(a,h)anthracene <sup>c</sup>	0	--	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
1,2-Dichlorobenzene	0	--	--	--	na	1.3E+03	--	--	na	1.3E+03	--	--	--	--	--	--	--	--	--	--	na	1.3E+03
1,3-Dichlorobenzene	0	--	--	--	na	9.6E+02	--	--	na	9.6E+02	--	--	--	--	--	--	--	--	--	--	na	9.6E+02
1,4-Dichlorobenzene	0	--	--	--	na	1.9E+02	--	--	na	1.9E+02	--	--	--	--	--	--	--	--	--	--	na	1.9E+02
3,3-Dichlorobenzidine <sup>c</sup>	0	--	--	--	na	2.8E-01	--	--	na	2.8E-01	--	--	--	--	--	--	--	--	--	--	na	2.8E-01
Dichlorobromomethane <sup>c</sup>	0	--	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	--	--	--	--	--	--	--	--	na	1.7E+02
1,2-Dichloroethane <sup>c</sup>	0	--	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	--	--	--	--	--	--	--	--	na	3.7E+02
1,1-Dichloroethylene	0	--	--	--	na	7.1E+03	--	--	na	7.1E+03	--	--	--	--	--	--	--	--	--	--	na	7.1E+03
1,2-trans-dichloroethylene	0	--	--	--	na	1.0E+04	--	--	na	1.0E+04	--	--	--	--	--	--	--	--	--	--	na	1.0E+04
2,4-Dichlorophenol	0	--	--	--	na	2.9E+02	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	--	--	na	2.9E+02
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,2-Dichloropropane <sup>c</sup>	0	--	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+02
1,3-Dichloropropene <sup>c</sup>	0	--	--	--	na	2.1E+02	--	--	na	2.1E+02	--	--	--	--	--	--	--	--	--	--	na	2.1E+02
Dieldrin <sup>c</sup>	0	2.4E-01	5.6E-02	na	5.4E-04	4.8E-01	5.6E-02	na	5.4E-04	--	--	--	--	--	--	--	--	--	4.8E-01	5.6E-02	na	5.4E-04
Diethyl Phthalate	0	--	--	--	na	4.4E+04	--	--	na	4.4E+04	--	--	--	--	--	--	--	--	--	--	na	4.4E+04
2,4-Dimethylphenol	0	--	--	--	na	8.5E+02	--	--	na	8.5E+02	--	--	--	--	--	--	--	--	--	--	na	8.5E+02
Dimethyl Phthalate	0	--	--	--	na	1.1E+06	--	--	na	1.1E+06	--	--	--	--	--	--	--	--	--	--	na	1.1E+06
Di-n-Butyl Phthalate	0	--	--	--	na	4.5E+03	--	--	na	4.5E+03	--	--	--	--	--	--	--	--	--	--	na	4.5E+03
2,4 Dinitrophenol	0	--	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	5.3E+03
2-Methyl-4,6-Dinitrophenol	0	--	--	--	na	2.8E+02	--	--	na	2.8E+02	--	--	--	--	--	--	--	--	--	--	na	2.8E+02
2,4-Dinitrotoluene <sup>c</sup>	0	--	--	--	na	3.4E+01	--	--	na	3.4E+01	--	--	--	--	--	--	--	--	--	--	na	3.4E+01
Dioxin 2,3,7,8-tetrachlorodibenzo-p-dioxin	0	--	--	--	na	5.1E-08	--	--	na	5.1E-08	--	--	--	--	--	--	--	--	--	--	na	5.1E-08
1,2-Diphenylhydrazine <sup>c</sup>	0	--	--	--	na	2.0E+00	--	--	na	2.0E+00	--	--	--	--	--	--	--	--	--	--	na	2.0E+00
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	4.4E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	--	4.4E-01	5.6E-02	na	8.9E+01
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	4.4E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	--	4.4E-01	5.6E-02	na	8.9E+01
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	--	--	4.4E-01	5.6E-02	--	--	--	--	--	--	--	--	--	--	--	4.4E-01	5.6E-02	--	--
Endosulfan Sulfate	0	--	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	--	--	--	--	na	8.9E+01
Endrin	0	8.6E-02	3.6E-02	na	6.0E-02	1.7E-01	3.6E-02	na	6.0E-02	--	--	--	--	--	--	--	--	--	1.7E-01	3.6E-02	na	6.0E-02
Endrin Aldehyde	0	--	--	--	na	3.0E-01	--	--	na	3.0E-01	--	--	--	--	--	--	--	--	--	--	na	3.0E-01

Parameter (ug/l unless noted)	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations				
		Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	--	--	--	na	2.1E+03	--	--	na	2.1E+03	--	--	--	--	--	--	--	--	--	--	na	2.1E+03
Fluoranthene	0	--	--	--	na	1.4E+02	--	--	na	1.4E+02	--	--	--	--	--	--	--	--	--	--	na	1.4E+02
Fluorene	0	--	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	5.3E+03
Foaming Agents	0	--	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Guthion	0	--	--	1.0E-02	na	--	--	1.0E-02	na	--	--	--	--	--	--	--	--	--	--	1.0E-02	na	--
Heptachlor <sup>c</sup>	0	5.2E-01	3.8E-03	na	7.9E-04	1.0E+00	3.8E-03	na	7.9E-04	--	--	--	--	--	--	--	--	--	1.0E+00	3.8E-03	na	7.9E-04
Heptachlor Epoxide <sup>c</sup>	0	5.2E-01	3.8E-03	na	3.9E-04	1.0E+00	3.8E-03	na	3.9E-04	--	--	--	--	--	--	--	--	--	1.0E+00	3.8E-03	na	3.9E-04
Hexachlorobenzene <sup>c</sup>	0	--	--	--	na	2.9E-03	--	--	na	2.9E-03	--	--	--	--	--	--	--	--	--	--	na	2.9E-03
Hexachlorobutadiene <sup>c</sup>	0	--	--	--	na	1.8E+02	--	--	na	1.8E+02	--	--	--	--	--	--	--	--	--	--	na	1.8E+02
Hexachlorocyclohexane																						
Alpha-BHC <sup>c</sup>	0	--	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	--	--	--	--	--	--	--	--	na	4.9E-02
Hexachlorocyclohexane																						
Beta-BHC <sup>c</sup>	0	--	--	--	na	1.7E-01	--	--	na	1.7E-01	--	--	--	--	--	--	--	--	--	--	na	1.7E-01
Hexachlorocyclohexane																						
Gamma-BHC <sup>c</sup> (Lindane)	0	9.5E-01	na	na	1.8E+00	1.9E+00	--	na	1.8E+00	--	--	--	--	--	--	--	--	--	1.9E+00	--	na	1.8E+00
Hexachlorocyclopentadiene	0	--	--	--	na	1.1E+03	--	--	na	1.1E+03	--	--	--	--	--	--	--	--	--	--	na	1.1E+03
Hexachloroethane <sup>c</sup>	0	--	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	--	--	na	3.3E+01
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	2.0E+00	na	--	--	--	--	--	--	--	--	--	--	2.0E+00	na	--	
Indeno (1,2,3-cd) pyrene <sup>c</sup>	0	--	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Iron	0	--	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Isophorone <sup>c</sup>	0	--	--	--	na	9.6E+03	--	--	na	9.6E+03	--	--	--	--	--	--	--	--	--	--	na	9.6E+03
Kepone	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--	
Lead	0	2.0E+01	2.3E+00	na	--	4.1E+01	2.3E+00	na	--	--	--	--	--	--	--	--	--	--	4.1E+01	2.3E+00	na	--
Malathion	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--	
Manganese	0	--	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Mercury	0	1.4E+00	7.7E-01	--	--	2.8E+00	7.7E-01	--	--	--	--	--	--	--	--	--	--	--	2.8E+00	7.7E-01	--	--
Methyl Bromide	0	--	--	--	na	1.5E+03	--	--	na	1.5E+03	--	--	--	--	--	--	--	--	--	--	na	1.5E+03
Methylene Chloride <sup>c</sup>	0	--	--	--	na	5.9E+03	--	--	na	5.9E+03	--	--	--	--	--	--	--	--	--	--	na	5.9E+03
Methoxychlor	0	--	3.0E-02	na	--	--	3.0E-02	na	--	--	--	--	--	--	--	--	--	--	3.0E-02	na	--	
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--	
Nickel	0	5.6E+01	6.3E+00	na	4.6E+03	1.1E+02	6.3E+00	na	4.6E+03	--	--	--	--	--	--	--	--	--	1.1E+02	6.3E+00	na	4.6E+03
Nitrate (as N)	0	--	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Nitrobenzene	0	--	--	--	na	6.9E+02	--	--	na	6.9E+02	--	--	--	--	--	--	--	--	--	--	na	6.9E+02
N-Nitrosodimethylamine <sup>c</sup>	0	--	--	--	na	3.0E+01	--	--	na	3.0E+01	--	--	--	--	--	--	--	--	--	--	na	3.0E+01
N-Nitrosodiphenylamine <sup>c</sup>	0	--	--	--	na	6.0E+01	--	--	na	6.0E+01	--	--	--	--	--	--	--	--	--	--	na	6.0E+01
N-Nitrosodi-n-propylamine <sup>c</sup>	0	--	--	--	na	5.1E+00	--	--	na	5.1E+00	--	--	--	--	--	--	--	--	--	--	na	5.1E+00
Nonylphenol	0	2.8E+01	6.6E+00	--	--	5.6E+01	6.6E+00	na	--	--	--	--	--	--	--	--	--	--	5.6E+01	6.6E+00	na	--
Parathion	0	6.5E-02	1.3E-02	na	--	1.3E-01	1.3E-02	na	--	--	--	--	--	--	--	--	--	--	1.3E-01	1.3E-02	na	--
PCB Total <sup>c</sup>	0	--	1.4E-02	na	6.4E-04	--	1.4E-02	na	6.4E-04	--	--	--	--	--	--	--	--	--	1.4E-02	na	6.4E-04	
Pentachlorophenol <sup>c</sup>	0	7.1E+00	5.5E+00	na	3.0E+01	1.4E+01	5.5E+00	na	3.0E+01	--	--	--	--	--	--	--	--	--	1.4E+01	5.5E+00	na	3.0E+01
Phenol	0	--	--	--	na	8.6E+05	--	--	na	8.6E+05	--	--	--	--	--	--	--	--	--	--	na	8.6E+05
Pyrene	0	--	--	--	na	4.0E+03	--	--	na	4.0E+03	--	--	--	--	--	--	--	--	--	--	na	4.0E+03
Radionuclides Gross Alpha Activity (pCi/L)	0	--	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Beta and Photon Activity (rem/yr)	0	--	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Radium 226 + 228 (pCi/L)	0	--	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Uranium (ug/l)	0	--	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	4.2E+03	4.0E+01	5.0E+00	na	4.2E+03	--	--	--	--	--	--	--	4.0E+01	5.0E+00	na	4.2E+03	
Silver	0	3.2E-01	--	na	--	6.4E-01	--	na	--	--	--	--	--	--	--	--	6.4E-01	--	na	--	
Sulfate	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	na	--	
1,1,2,2-Tetrachloroethane <sup>c</sup>	0	--	--	na	4.0E+01	--	--	na	4.0E+01	--	--	--	--	--	--	--	--	--	na	4.0E+01	
Tetrachloroethylene <sup>c</sup>	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	--	na	3.3E+01	
Thallium	0	--	--	na	4.7E-01	--	--	na	4.7E-01	--	--	--	--	--	--	--	--	--	na	4.7E-01	
Toluene	0	--	--	na	6.0E+03	--	--	na	6.0E+03	--	--	--	--	--	--	--	--	--	na	6.0E+03	
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	na	--	
Toxaphene <sup>c</sup>	0	7.3E-01	2.0E-04	na	2.8E-03	1.5E+00	2.0E-04	na	2.8E-03	--	--	--	--	--	--	--	1.5E+00	2.0E-04	na	2.8E-03	
Tributyltin	0	4.6E-01	7.2E-02	na	--	9.2E-01	7.2E-02	na	--	--	--	--	--	--	--	--	9.2E-01	7.2E-02	na	--	
1,2,4-Trichlorobenzene	0	--	--	na	7.0E+01	--	--	na	7.0E+01	--	--	--	--	--	--	--	--	--	na	7.0E+01	
1,1,2-Trichloroethane <sup>c</sup>	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	--	--	--	--	--	--	--	na	1.6E+02	
Trichloroethylene <sup>c</sup>	0	--	--	na	3.0E+02	--	--	na	3.0E+02	--	--	--	--	--	--	--	--	--	na	3.0E+02	
2,4,6-Trichlorophenol <sup>c</sup>	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	--	na	2.4E+01	
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	na	--	
Vinyl Chloride <sup>c</sup>	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	--	na	2.4E+01	
Zinc	0	3.6E+01	3.6E+01	na	2.6E+04	7.2E+01	3.6E+01	na	2.6E+04	--	--	--	--	--	--	--	7.2E+01	3.6E+01	na	2.6E+04	

## Notes:

- All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
- Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipalities
- Metals measured as Dissolved, unless specified otherwise
- "C" indicates a carcinogenic parameter
- Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.  
Antidegradation WLAs are based upon a complete mix.
- Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic  
= (0.1(WQC - background conc.) + background conc.) for human health
- WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)
Antimony	6.4E+02
Arsenic	9.0E+01
Barium	na
Cadmium	2.3E-01
Chromium III	1.4E+01
Chromium VI	6.6E+00
Copper	1.6E+00
Iron	na
Lead	1.4E+00
Manganese	na
Mercury	4.6E-01
Nickel	3.8E+00
Selenium	3.0E+00
Silver	2.5E-01
Zinc	2.2E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

# FRESHWATER WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: IMTT Virginia - Outfall 002

Permit No.: VA0055409

Receiving Stream: UT Almond Creek

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information		Stream Flows		Mixing Information		Effluent Information	
Mean Hardness (as CaCO <sub>3</sub> ) =	51.8 mg/L	1Q10 (Annual) =	1 MGD	Annual - 1Q10 Mix =	100 %	Mean Hardness (as CaCO <sub>3</sub> ) =	51.8 mg/L
90% Temperature (Annual) =	28 deg C	7Q10 (Annual) =	MGD	- 7Q10 Mix =	%	90% Temp (Annual) =	28 deg C
90% Temperature (Wet season) =	deg C	30Q10 (Annual) =	MGD	- 30Q10 Mix =	%	90% Temp (Wet season) =	deg C
90% Maximum pH =	7.69 SU	1Q10 (Wet season) =	MGD	Wet Season - 1Q10 Mix =	%	90% Maximum pH =	7.69 SU
10% Maximum pH =	7.1 SU	30Q10 (Wet season) =	MGD	- 30Q10 Mix =	%	10% Maximum pH =	7.1 SU
Tier Designation (1 or 2) =	1	30Q5 =	MGD			Discharge Flow =	1 MGD
Public Water Supply (PWS) Y/N? =	n	Harmonic Mean =	MGD				
Trout Present Y/N? =	n						
Early Life Stages Present Y/N? =	Y						

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations				
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	
Acenaphthene	0	--	--	na	9.9E+02	--	--	na	9.9E+02	--	--	--	--	--	--	--	--	--	--	--	na	9.9E+02
Acrolein	0	--	--	na	9.3E+00	--	--	na	9.3E+00	--	--	--	--	--	--	--	--	--	--	--	na	9.3E+00
Acrylonitrile <sup>c</sup>	0	--	--	na	2.5E+00	--	--	na	2.5E+00	--	--	--	--	--	--	--	--	--	--	--	na	2.5E+00
Aldrin <sup>c</sup>	0	3.0E+00	--	na	5.0E-04	6.0E+00	--	na	5.0E-04	--	--	--	--	--	--	--	--	6.0E+00	--	--	na	5.0E-04
Ammonia-N (mg/l) (Yearly)	0	1.47E+01	1.52E+00	na	--	2.94E+01	1.52E+00	na	--	--	--	--	--	--	--	--	--	2.94E+01	1.52E+00	na	--	--
Ammonia-N (mg/l) (High Flow)	0	1.47E+01	3.62E+00	na	--	1.47E+01	3.62E+00	na	--	--	--	--	--	--	--	--	--	1.47E+01	3.62E+00	na	--	--
Anthracene	0	--	--	na	4.0E+04	--	--	na	4.0E+04	--	--	--	--	--	--	--	--	--	--	--	na	4.0E+04
Antimony	0	--	--	na	6.4E+02	--	--	na	6.4E+02	--	--	--	--	--	--	--	--	--	--	--	na	6.4E+02
Arsenic	0	3.4E+02	1.5E+02	na	--	6.8E+02	1.5E+02	na	--	--	--	--	--	--	--	--	--	6.8E+02	1.5E+02	na	--	--
Barium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	--	na	--
Benzene <sup>c</sup>	0	--	--	na	5.1E+02	--	--	na	5.1E+02	--	--	--	--	--	--	--	--	--	--	--	na	5.1E+02
Benzidine <sup>c</sup>	0	--	--	na	2.0E-03	--	--	na	2.0E-03	--	--	--	--	--	--	--	--	--	--	--	na	2.0E-03
Benzo (a) anthracene <sup>c</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (b) fluoranthene <sup>c</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (k) fluoranthene <sup>c</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (a) pyrene <sup>c</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Bis2-Chloroethyl Ether <sup>c</sup>	0	--	--	na	5.3E+00	--	--	na	5.3E+00	--	--	--	--	--	--	--	--	--	--	--	na	5.3E+00
Bis2-Chloroisopropyl Ether	0	--	--	na	6.5E+04	--	--	na	6.5E+04	--	--	--	--	--	--	--	--	--	--	--	na	6.5E+04
Bis 2-Ethylhexyl Phthalate <sup>c</sup>	0	--	--	na	2.2E+01	--	--	na	2.2E+01	--	--	--	--	--	--	--	--	--	--	--	na	2.2E+01
Bromoform <sup>c</sup>	0	--	--	na	1.4E+03	--	--	na	1.4E+03	--	--	--	--	--	--	--	--	--	--	--	na	1.4E+03
Butylbenzylphthalate	0	--	--	na	1.9E+03	--	--	na	1.9E+03	--	--	--	--	--	--	--	--	--	--	--	na	1.9E+03
Cadmium	0	1.9E+00	6.8E-01	na	--	3.7E+00	6.8E-01	na	--	--	--	--	--	--	--	--	--	3.7E+00	6.8E-01	na	--	--
Carbon Tetrachloride <sup>c</sup>	0	--	--	na	1.6E+01	--	--	na	1.6E+01	--	--	--	--	--	--	--	--	--	--	--	na	1.6E+01
Chlordane <sup>c</sup>	0	2.4E+00	4.3E-03	na	8.1E-03	4.8E+00	4.3E-03	na	8.1E-03	--	--	--	--	--	--	--	--	4.8E+00	4.3E-03	na	8.1E-03	
Chloride	0	8.6E+05	2.3E+05	na	--	1.7E+06	2.3E+05	na	--	--	--	--	--	--	--	--	--	1.7E+06	2.3E+05	na	--	--
TRC	0	1.9E+01	1.1E+01	na	--	3.8E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	3.8E+01	1.1E+01	na	--	--
Chlorobenzene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	--	--	--	na	1.6E+03

Parameter (ug/l unless noted)	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations				
		Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane <sup>c</sup>	0	--	--	--	na	1.3E+02	--	--	na	1.3E+02	--	--	--	--	--	--	--	--	--	--	na	1.3E+02
Chloroform	0	--	--	--	na	1.1E+04	--	--	na	1.1E+04	--	--	--	--	--	--	--	--	--	--	na	1.1E+04
2-Chloronaphthalene	0	--	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	--	--	na	1.6E+03
2-Chlorophenol	0	--	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+02
Chloryrifos	0	8.3E-02	4.1E-02	na	--	1.7E-01	4.1E-02	na	--	--	--	--	--	--	--	--	--	--	1.7E-01	4.1E-02	na	--
Chromium III	0	3.3E+02	4.3E+01	na	--	6.6E+02	4.3E+01	na	--	--	--	--	--	--	--	--	--	--	6.6E+02	4.3E+01	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	3.2E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	--	3.2E+01	1.1E+01	na	--
Chromium, Total	0	--	--	--	1.0E+02	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Chrysene <sup>c</sup>	0	--	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	--	--	--	--	--	--	--	--	na	1.8E-02
Copper	0	7.2E+00	5.1E+00	na	--	1.4E+01	5.1E+00	na	--	--	--	--	--	--	--	--	--	--	1.4E+01	5.1E+00	na	--
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	4.4E+01	5.2E+00	na	1.6E+04	--	--	--	--	--	--	--	--	--	4.4E+01	5.2E+00	na	1.6E+04
DDD <sup>c</sup>	0	--	--	--	na	3.1E-03	--	--	na	3.1E-03	--	--	--	--	--	--	--	--	--	--	na	3.1E-03
DDE <sup>c</sup>	0	--	--	--	na	2.2E-03	--	--	na	2.2E-03	--	--	--	--	--	--	--	--	--	--	na	2.2E-03
DDT <sup>c</sup>	0	1.1E+00	1.0E-03	na	2.2E-03	2.2E+00	1.0E-03	na	2.2E-03	--	--	--	--	--	--	--	--	--	2.2E+00	1.0E-03	na	2.2E-03
Demeton	0	--	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Diazinon	0	1.7E-01	1.7E-01	na	--	3.4E-01	1.7E-01	na	--	--	--	--	--	--	--	--	--	--	3.4E-01	1.7E-01	na	--
Dibenz(a,h)anthracene <sup>c</sup>	0	--	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
1,2-Dichlorobenzene	0	--	--	--	na	1.3E+03	--	--	na	1.3E+03	--	--	--	--	--	--	--	--	--	--	na	1.3E+03
1,3-Dichlorobenzene	0	--	--	--	na	9.6E+02	--	--	na	9.6E+02	--	--	--	--	--	--	--	--	--	--	na	9.6E+02
1,4-Dichlorobenzene	0	--	--	--	na	1.9E+02	--	--	na	1.9E+02	--	--	--	--	--	--	--	--	--	--	na	1.9E+02
3,3-Dichlorobenzidine <sup>c</sup>	0	--	--	--	na	2.8E-01	--	--	na	2.8E-01	--	--	--	--	--	--	--	--	--	--	na	2.8E-01
Dichlorobromomethane <sup>c</sup>	0	--	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	--	--	--	--	--	--	--	--	na	1.7E+02
1,2-Dichloroethane <sup>c</sup>	0	--	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	--	--	--	--	--	--	--	--	na	3.7E+02
1,1-Dichloroethylene	0	--	--	--	na	7.1E+03	--	--	na	7.1E+03	--	--	--	--	--	--	--	--	--	--	na	7.1E+03
1,2-trans-dichloroethylene	0	--	--	--	na	1.0E+04	--	--	na	1.0E+04	--	--	--	--	--	--	--	--	--	--	na	1.0E+04
2,4-Dichlorophenol	0	--	--	--	na	2.9E+02	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	--	--	na	2.9E+02
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,2-Dichloropropane <sup>c</sup>	0	--	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+02
1,3-Dichloropropene <sup>c</sup>	0	--	--	--	na	2.1E+02	--	--	na	2.1E+02	--	--	--	--	--	--	--	--	--	--	na	2.1E+02
Dieldrin <sup>c</sup>	0	2.4E-01	5.6E-02	na	5.4E-04	4.8E-01	5.6E-02	na	5.4E-04	--	--	--	--	--	--	--	--	--	4.8E-01	5.6E-02	na	5.4E-04
Diethyl Phthalate	0	--	--	--	na	4.4E+04	--	--	na	4.4E+04	--	--	--	--	--	--	--	--	--	--	na	4.4E+04
2,4-Dimethylphenol	0	--	--	--	na	8.5E+02	--	--	na	8.5E+02	--	--	--	--	--	--	--	--	--	--	na	8.5E+02
Dimethyl Phthalate	0	--	--	--	na	1.1E+06	--	--	na	1.1E+06	--	--	--	--	--	--	--	--	--	--	na	1.1E+06
Di-n-Butyl Phthalate	0	--	--	--	na	4.5E+03	--	--	na	4.5E+03	--	--	--	--	--	--	--	--	--	--	na	4.5E+03
2,4 Dinitrophenol	0	--	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	5.3E+03
2-Methyl-4,6-Dinitrophenol	0	--	--	--	na	2.8E+02	--	--	na	2.8E+02	--	--	--	--	--	--	--	--	--	--	na	2.8E+02
2,4-Dinitrotoluene <sup>c</sup>	0	--	--	--	na	3.4E+01	--	--	na	3.4E+01	--	--	--	--	--	--	--	--	--	--	na	3.4E+01
Dioxin, 2,3,7,8-tetrachlorodibenzo-p-dioxin	0	--	--	--	na	5.1E-08	--	--	na	5.1E-08	--	--	--	--	--	--	--	--	--	--	na	5.1E-08
1,2-Diphenylhydrazine <sup>c</sup>	0	--	--	--	na	2.0E+00	--	--	na	2.0E+00	--	--	--	--	--	--	--	--	--	--	na	2.0E+00
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	4.4E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	--	4.4E-01	5.6E-02	na	8.9E+01
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	4.4E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	--	4.4E-01	5.6E-02	na	8.9E+01
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	--	--	4.4E-01	5.6E-02	--	--	--	--	--	--	--	--	--	--	--	4.4E-01	5.6E-02	--	--
Endosulfan Sulfate	0	--	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	--	--	--	--	na	8.9E+01
Endrin	0	8.6E-02	3.6E-02	na	6.0E-02	1.7E-01	3.6E-02	na	6.0E-02	--	--	--	--	--	--	--	--	--	1.7E-01	3.6E-02	na	6.0E-02
Endrin Aldehyde	0	--	--	--	na	3.0E-01	--	--	na	3.0E-01	--	--	--	--	--	--	--	--	--	--	na	3.0E-01

Parameter (ug/l unless noted)	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations				
		Conc.	Acute	Chronic	HH (PWS)	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	
Ethylbenzene		0	--	--	na	2.1E+03	--	--	na	2.1E+03	--	--	--	--	--	--	--	--	--	--	na	2.1E+03
Fluoranthene		0	--	--	na	1.4E+02	--	--	na	1.4E+02	--	--	--	--	--	--	--	--	--	--	na	1.4E+02
Fluorene		0	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	5.3E+03
Foaming Agents		0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Guthion		0	--	1.0E-02	na	--	--	1.0E-02	na	--	--	--	--	--	--	--	--	--	1.0E-02	na	--	
Heptachlor <sup>c</sup>		0	5.2E-01	3.8E-03	na	7.9E-04	1.0E+00	3.8E-03	na	7.9E-04	--	--	--	--	--	--	--	--	1.0E+00	3.8E-03	na	7.9E-04
Heptachlor Epoxide <sup>c</sup>		0	5.2E-01	3.8E-03	na	3.9E-04	1.0E+00	3.8E-03	na	3.9E-04	--	--	--	--	--	--	--	--	1.0E+00	3.8E-03	na	3.9E-04
Hexachlorobenzene <sup>c</sup>		0	--	--	na	2.9E-03	--	--	na	2.9E-03	--	--	--	--	--	--	--	--	--	--	na	2.9E-03
Hexachlorobutadiene <sup>c</sup>		0	--	--	na	1.8E+02	--	--	na	1.8E+02	--	--	--	--	--	--	--	--	--	--	na	1.8E+02
Hexachlorocyclohexane																						
Alpha-BHC <sup>c</sup>		0	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	--	--	--	--	--	--	--	--	na	4.9E-02
Hexachlorocyclohexane																						
Beta-BHC <sup>c</sup>		0	--	--	na	1.7E-01	--	--	na	1.7E-01	--	--	--	--	--	--	--	--	--	--	na	1.7E-01
Hexachlorocyclohexane																						
Gamma-BHC <sup>c</sup> (Lindane)		0	9.5E-01	na	na	1.8E+00	1.9E+00	--	na	1.8E+00	--	--	--	--	--	--	--	--	1.9E+00	--	na	1.8E+00
Hexachlorocyclopentadiene																			--	--	na	1.1E+03
Hexachloroethane <sup>c</sup>		0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	--	--	na	3.3E+01
Hydrogen Sulfide																			--	2.0E+00	na	--
Indeno (1,2,3-cd) pyrene <sup>c</sup>		0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Iron		0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Isophorone <sup>c</sup>		0	--	--	na	9.6E+03	--	--	na	9.6E+03	--	--	--	--	--	--	--	--	--	--	na	9.6E+03
Kepone		0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	0.0E+00	na	--	
Lead		0	5.1E+01	5.8E+00	na	--	1.0E+02	5.8E+00	na	--	--	--	--	--	--	--	--	--	1.0E+02	5.8E+00	na	--
Malathion		0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	1.0E-01	na	--	
Manganese		0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Mercury		0	1.4E+00	7.7E-01	--	--	2.8E+00	7.7E-01	--	--	--	--	--	--	--	--	--	--	2.8E+00	7.7E-01	--	--
Methyl Bromide		0	--	--	na	1.5E+03	--	--	na	1.5E+03	--	--	--	--	--	--	--	--	--	--	na	1.5E+03
Methylene Chloride <sup>c</sup>		0	--	--	na	5.9E+03	--	--	na	5.9E+03	--	--	--	--	--	--	--	--	--	--	na	5.9E+03
Methoxychlor		0	--	3.0E-02	na	--	--	3.0E-02	na	--	--	--	--	--	--	--	--	--	3.0E-02	na	--	
Mirex		0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	0.0E+00	na	--	
Nickel		0	1.0E+02	1.2E+01	na	4.6E+03	2.1E+02	1.2E+01	na	4.6E+03	--	--	--	--	--	--	--	--	2.1E+02	1.2E+01	na	4.6E+03
Nitrate (as N)		0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Nitrobenzene		0	--	--	na	6.9E+02	--	--	na	6.9E+02	--	--	--	--	--	--	--	--	--	--	na	6.9E+02
N-Nitrosodimethylamine <sup>c</sup>		0	--	--	na	3.0E+01	--	--	na	3.0E+01	--	--	--	--	--	--	--	--	--	--	na	3.0E+01
N-Nitrosodiphenylamine <sup>c</sup>		0	--	--	na	6.0E+01	--	--	na	6.0E+01	--	--	--	--	--	--	--	--	--	--	na	6.0E+01
N-Nitrosodi-n-propylamine <sup>c</sup>		0	--	--	na	5.1E+00	--	--	na	5.1E+00	--	--	--	--	--	--	--	--	--	--	na	5.1E+00
Nonylphenol		0	2.8E+01	6.6E+00	--	--	5.6E+01	6.6E+00	na	--	--	--	--	--	--	--	--	--	5.6E+01	6.6E+00	na	--
Parathion		0	6.5E-02	1.3E-02	na	--	1.3E-01	1.3E-02	na	--	--	--	--	--	--	--	--	--	1.3E-01	1.3E-02	na	--
PCB Total <sup>c</sup>		0	--	1.4E-02	na	6.4E-04	--	1.4E-02	na	6.4E-04	--	--	--	--	--	--	--	--	1.4E-02	na	6.4E-04	
Pentachlorophenol <sup>c</sup>		0	9.6E+00	7.4E+00	na	3.0E+01	1.9E+01	7.4E+00	na	3.0E+01	--	--	--	--	--	--	--	--	1.9E+01	7.4E+00	na	3.0E+01
Phenol		0	--	--	na	8.6E+05	--	--	na	8.6E+05	--	--	--	--	--	--	--	--	--	--	8.6E+05	
Pyrene		0	--	--	na	4.0E+03	--	--	na	4.0E+03	--	--	--	--	--	--	--	--	--	--	4.0E+03	
Radionuclides Gross Alpha Activity (pCi/L)		0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Beta and Photon Activity (rem/yr)		0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Radium 226 + 228 (pCi/L)		0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Uranium (ug/l)		0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	4.2E+03	4.0E+01	5.0E+00	na	4.2E+03	--	--	--	--	--	--	--	--	4.0E+01	5.0E+00	na	4.2E+03
Silver	0	1.1E+00	--	na	--	2.2E+00	--	na	--	--	--	--	--	--	--	--	--	2.2E+00	--	na	--
Sulfate	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,1,2,2-Tetrachloroethane <sup>c</sup>	0	--	--	na	4.0E+01	--	--	na	4.0E+01	--	--	--	--	--	--	--	--	--	--	na	4.0E+01
Tetrachloroethylene <sup>c</sup>	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	--	--	na	3.3E+01
Thallium	0	--	--	na	4.7E-01	--	--	na	4.7E-01	--	--	--	--	--	--	--	--	--	--	na	4.7E-01
Toluene	0	--	--	na	6.0E+03	--	--	na	6.0E+03	--	--	--	--	--	--	--	--	--	--	na	6.0E+03
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Toxaphene <sup>c</sup>	0	7.3E-01	2.0E-04	na	2.8E-03	1.5E+00	2.0E-04	na	2.8E-03	--	--	--	--	--	--	--	--	1.5E+00	2.0E-04	na	2.8E-03
Tributyltin	0	4.6E-01	7.2E-02	na	--	9.2E-01	7.2E-02	na	--	--	--	--	--	--	--	--	--	9.2E-01	7.2E-02	na	--
1,2,4-Trichlorobenzene	0	--	--	na	7.0E+01	--	--	na	7.0E+01	--	--	--	--	--	--	--	--	--	--	na	7.0E+01
1,1,2-Trichloroethane <sup>c</sup>	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	--	--	--	--	--	--	--	--	na	1.6E+02
Trichloroethylene <sup>c</sup>	0	--	--	na	3.0E+02	--	--	na	3.0E+02	--	--	--	--	--	--	--	--	--	--	na	3.0E+02
2,4,6-Trichlorophenol <sup>c</sup>	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	--	--	na	2.4E+01
2-(2,4,5-Trichlorophenoxy)propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Vinyl Chloride <sup>c</sup>	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	--	--	na	2.4E+01
Zinc	0	6.7E+01	6.8E+01	na	2.6E+04	1.3E+02	6.8E+01	na	2.6E+04	--	--	--	--	--	--	--	--	1.3E+02	6.8E+01	na	2.6E+04

Notes:

- All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
- Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipalities
- Metals measured as Dissolved, unless specified otherwise
- "C" indicates a carcinogenic parameter
- Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information. Antidegradation WLAs are based upon a complete mix.
- Antideg. Baseline =  $(0.25(WQC - \text{background conc.}) + \text{background conc.})$  for acute and chronic  
 $= (0.1(WQC - \text{background conc.}) + \text{background conc.})$  for human health
- WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)
Antimony	6.4E+02
Arsenic	9.0E+01
Barium	na
Cadmium	4.1E-01
Chromium III	2.6E+01
Chromium VI	6.6E+00
Copper	3.1E+00
Iron	na
Lead	3.5E+00
Manganese	na
Mercury	4.6E-01
Nickel	7.0E+00
Selenium	3.0E+00
Silver	8.9E-01
Zinc	4.1E+01

Note: do not use OL's lower than the minimum OL's provided in agency guidance

# FRESHWATER WATER QUALITY CRITERIA / WASTELOAD ALLOCATION ANALYSIS

Facility Name: IMTT Virginia - Outfall 003

Permit No.: VA0055409

Receiving Stream: UT Almond Creek

Version: OWP Guidance Memo 00-2011 (8/24/00)

Stream Information		Stream Flows		Mixing Information		Effluent Information	
Mean Hardness (as CaCO <sub>3</sub> ) =	25 mg/L	1Q10 (Annual) =	1 MGD	Annual - 1Q10 Mix =	100 %	Mean Hardness (as CaCO <sub>3</sub> ) =	25 mg/L
90% Temperature (Annual) =	28 deg C	7Q10 (Annual) =	MGD	- 7Q10 Mix =	%	90% Temp (Annual) =	28 deg C
90% Temperature (Wet season) =	deg C	30Q10 (Annual) =	MGD	- 30Q10 Mix =	%	90% Temp (Wet season) =	deg C
90% Maximum pH =	SU	1Q10 (Wet season) =	MGD	Wet Season - 1Q10 Mix =	%	90% Maximum pH =	SU
10% Maximum pH =	SU	30Q10 (Wet season) =	MGD	- 30Q10 Mix =	%	10% Maximum pH =	SU
Tier Designation (1 or 2) =	1	30Q5 =	MGD			Discharge Flow =	1 MGD
Public Water Supply (PWS) Y/N? =	n	Harmonic Mean =	MGD				
Trout Present Y/N? =	n						
Early Life Stages Present Y/N? =	Y						

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Acenaphthene	0	--	--	na	9.9E+02	--	--	na	9.9E+02	--	--	--	--	--	--	--	--	--	--	na	9.9E+02
Acrolein	0	--	--	na	9.3E+00	--	--	na	9.3E+00	--	--	--	--	--	--	--	--	--	--	na	9.3E+00
Acrylonitrile <sup>c</sup>	0	--	--	na	2.5E+00	--	--	na	2.5E+00	--	--	--	--	--	--	--	--	--	--	na	2.5E+00
Aldrin <sup>c</sup>	0	3.0E+00	--	na	5.0E-04	6.0E+00	--	na	5.0E-04	--	--	--	--	--	--	--	--	6.0E+00	--	na	5.0E-04
Ammonia-N (mg/l) (Yearly)	0	5.84E+01	2.97E+00	na	--	1.17E+02	2.97E+00	na	--	--	--	--	--	--	--	--	--	1.17E+02	2.97E+00	na	--
Ammonia-N (mg/l) (High Flow)	0	5.84E+01	7.09E+00	na	--	5.84E+01	7.09E+00	na	--	--	--	--	--	--	--	--	--	5.84E+01	7.09E+00	na	--
Anthracene	0	--	--	na	4.0E+04	--	--	na	4.0E+04	--	--	--	--	--	--	--	--	--	--	na	4.0E+04
Antimony	0	--	--	na	6.4E+02	--	--	na	6.4E+02	--	--	--	--	--	--	--	--	--	--	na	6.4E+02
Arsenic	0	3.4E+02	1.5E+02	na	--	6.8E+02	1.5E+02	na	--	--	--	--	--	--	--	--	--	6.8E+02	1.5E+02	na	--
Barium	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Benzene <sup>c</sup>	0	--	--	na	5.1E+02	--	--	na	5.1E+02	--	--	--	--	--	--	--	--	--	--	na	5.1E+02
Benzidine <sup>c</sup>	0	--	--	na	2.0E-03	--	--	na	2.0E-03	--	--	--	--	--	--	--	--	--	--	na	2.0E-03
Benzo (a) anthracene <sup>c</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (b) fluoranthene <sup>c</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (k) fluoranthene <sup>c</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Benzo (a) pyrene <sup>c</sup>	0	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Bis2-Chloroethyl Ether <sup>c</sup>	0	--	--	na	5.3E+00	--	--	na	5.3E+00	--	--	--	--	--	--	--	--	--	--	na	5.3E+00
Bis2-Chloroisopropyl Ether	0	--	--	na	6.5E+04	--	--	na	6.5E+04	--	--	--	--	--	--	--	--	--	--	na	6.5E+04
Bis 2-Ethylhexyl Phthalate <sup>c</sup>	0	--	--	na	2.2E+01	--	--	na	2.2E+01	--	--	--	--	--	--	--	--	--	--	na	2.2E+01
Bromoform <sup>c</sup>	0	--	--	na	1.4E+03	--	--	na	1.4E+03	--	--	--	--	--	--	--	--	--	--	na	1.4E+03
Butylbenzylphthalate	0	--	--	na	1.9E+03	--	--	na	1.9E+03	--	--	--	--	--	--	--	--	--	--	na	1.9E+03
Cadmium	0	8.2E-01	3.8E-01	na	--	1.6E+00	3.8E-01	na	--	--	--	--	--	--	--	--	--	1.6E+00	3.8E-01	na	--
Carbon Tetrachloride <sup>c</sup>	0	--	--	na	1.6E+01	--	--	na	1.6E+01	--	--	--	--	--	--	--	--	--	--	na	1.6E+01
Chlordane <sup>c</sup>	0	2.4E+00	4.3E-03	na	8.1E-03	4.8E+00	4.3E-03	na	8.1E-03	--	--	--	--	--	--	--	--	4.8E+00	4.3E-03	na	8.1E-03
Chloride	0	8.6E+05	2.3E+05	na	--	1.7E+06	2.3E+05	na	--	--	--	--	--	--	--	--	--	1.7E+06	2.3E+05	na	--
TRC	0	1.9E+01	1.1E+01	na	--	3.8E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	3.8E+01	1.1E+01	na	--
Chlorobenzene	0	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	--	--	na	1.6E+03

Parameter (ug/l unless noted)	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations				
		Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Chlorodibromomethane <sup>c</sup>	0	--	--	--	na	1.3E+02	--	--	na	1.3E+02	--	--	--	--	--	--	--	--	--	--	na	1.3E+02
Chloroform	0	--	--	--	na	1.1E+04	--	--	na	1.1E+04	--	--	--	--	--	--	--	--	--	--	na	1.1E+04
2-Chloronaphthalene	0	--	--	--	na	1.6E+03	--	--	na	1.6E+03	--	--	--	--	--	--	--	--	--	--	na	1.6E+03
2-Chlorophenol	0	--	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+02
Chlorpyrifos	0	8.3E-02	4.1E-02	na	--	1.7E-01	4.1E-02	na	--	--	--	--	--	--	--	--	--	--	1.7E-01	4.1E-02	na	--
Chromium III	0	1.8E+02	2.4E+01	na	--	3.7E+02	2.4E+01	na	--	--	--	--	--	--	--	--	--	--	3.7E+02	2.4E+01	na	--
Chromium VI	0	1.6E+01	1.1E+01	na	--	3.2E+01	1.1E+01	na	--	--	--	--	--	--	--	--	--	--	3.2E+01	1.1E+01	na	--
Chromium, Total	0	--	--	--	1.0E+02	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Chrysene <sup>c</sup>	0	--	--	--	na	1.8E-02	--	--	na	1.8E-02	--	--	--	--	--	--	--	--	--	--	na	1.8E-02
Copper	0	3.6E+00	2.7E+00	na	--	7.3E+00	2.7E+00	na	--	--	--	--	--	--	--	--	--	--	7.3E+00	2.7E+00	na	--
Cyanide, Free	0	2.2E+01	5.2E+00	na	1.6E+04	4.4E+01	5.2E+00	na	1.6E+04	--	--	--	--	--	--	--	--	--	4.4E+01	5.2E+00	na	1.6E+04
DDD <sup>c</sup>	0	--	--	--	na	3.1E-03	--	--	na	3.1E-03	--	--	--	--	--	--	--	--	--	--	na	3.1E-03
DDE <sup>c</sup>	0	--	--	--	na	2.2E-03	--	--	na	2.2E-03	--	--	--	--	--	--	--	--	--	--	na	2.2E-03
DDT <sup>c</sup>	0	1.1E+00	1.0E-03	na	2.2E-03	2.2E+00	1.0E-03	na	2.2E-03	--	--	--	--	--	--	--	--	--	2.2E+00	1.0E-03	na	2.2E-03
Demeton	0	--	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--
Diazinon	0	1.7E-01	1.7E-01	na	--	3.4E-01	1.7E-01	na	--	--	--	--	--	--	--	--	--	--	3.4E-01	1.7E-01	na	--
Dibenz(a,h)anthracene <sup>c</sup>	0	--	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
1,2-Dichlorobenzene	0	--	--	--	na	1.3E+03	--	--	na	1.3E+03	--	--	--	--	--	--	--	--	--	--	na	1.3E+03
1,3-Dichlorobenzene	0	--	--	--	na	9.6E+02	--	--	na	9.6E+02	--	--	--	--	--	--	--	--	--	--	na	9.6E+02
1,4-Dichlorobenzene	0	--	--	--	na	1.9E+02	--	--	na	1.9E+02	--	--	--	--	--	--	--	--	--	--	na	1.9E+02
3,3-Dichlorobenzidine <sup>c</sup>	0	--	--	--	na	2.8E-01	--	--	na	2.8E-01	--	--	--	--	--	--	--	--	--	--	na	2.8E-01
Dichlorobromomethane <sup>c</sup>	0	--	--	--	na	1.7E+02	--	--	na	1.7E+02	--	--	--	--	--	--	--	--	--	--	na	1.7E+02
1,2-Dichloroethane <sup>c</sup>	0	--	--	--	na	3.7E+02	--	--	na	3.7E+02	--	--	--	--	--	--	--	--	--	--	na	3.7E+02
1,1-Dichloroethylene	0	--	--	--	na	7.1E+03	--	--	na	7.1E+03	--	--	--	--	--	--	--	--	--	--	na	7.1E+03
1,2-trans-dichloroethylene	0	--	--	--	na	1.0E+04	--	--	na	1.0E+04	--	--	--	--	--	--	--	--	--	--	na	1.0E+04
2,4-Dichlorophenol	0	--	--	--	na	2.9E+02	--	--	na	2.9E+02	--	--	--	--	--	--	--	--	--	--	na	2.9E+02
2,4-Dichlorophenoxy acetic acid (2,4-D)	0	--	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
1,2-Dichloropropane <sup>c</sup>	0	--	--	--	na	1.5E+02	--	--	na	1.5E+02	--	--	--	--	--	--	--	--	--	--	na	1.5E+02
1,3-Dichloropropene <sup>c</sup>	0	--	--	--	na	2.1E+02	--	--	na	2.1E+02	--	--	--	--	--	--	--	--	--	--	na	2.1E+02
Dieldrin <sup>c</sup>	0	2.4E-01	5.6E-02	na	5.4E-04	4.8E-01	5.6E-02	na	5.4E-04	--	--	--	--	--	--	--	--	--	4.8E-01	5.6E-02	na	5.4E-04
Diethyl Phthalate	0	--	--	--	na	4.4E+04	--	--	na	4.4E+04	--	--	--	--	--	--	--	--	--	--	na	4.4E+04
2,4-Dimethylphenol	0	--	--	--	na	8.5E+02	--	--	na	8.5E+02	--	--	--	--	--	--	--	--	--	--	na	8.5E+02
Dimethyl Phthalate	0	--	--	--	na	1.1E+06	--	--	na	1.1E+06	--	--	--	--	--	--	--	--	--	--	na	1.1E+06
Di-n-Butyl Phthalate	0	--	--	--	na	4.5E+03	--	--	na	4.5E+03	--	--	--	--	--	--	--	--	--	--	na	4.5E+03
2,4 Dinitrophenol	0	--	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	5.3E+03
2-Methyl-4,6-Dinitrophenol	0	--	--	--	na	2.8E+02	--	--	na	2.8E+02	--	--	--	--	--	--	--	--	--	--	na	2.8E+02
2,4-Dinitrotoluene <sup>c</sup>	0	--	--	--	na	3.4E+01	--	--	na	3.4E+01	--	--	--	--	--	--	--	--	--	--	na	3.4E+01
Dioxin 2,3,7,8-tetrachlorodibenzo-p-dioxin	0	--	--	--	na	5.1E-08	--	--	na	5.1E-08	--	--	--	--	--	--	--	--	--	--	na	5.1E-08
1,2-Diphenylhydrazine <sup>c</sup>	0	--	--	--	na	2.0E+00	--	--	na	2.0E+00	--	--	--	--	--	--	--	--	--	--	na	2.0E+00
Alpha-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	4.4E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	--	4.4E-01	5.6E-02	na	8.9E+01
Beta-Endosulfan	0	2.2E-01	5.6E-02	na	8.9E+01	4.4E-01	5.6E-02	na	8.9E+01	--	--	--	--	--	--	--	--	--	4.4E-01	5.6E-02	na	8.9E+01
Alpha + Beta Endosulfan	0	2.2E-01	5.6E-02	--	--	4.4E-01	5.6E-02	--	--	--	--	--	--	--	--	--	--	--	4.4E-01	5.6E-02	--	--
Endosulfan Sulfate	0	--	--	--	na	8.9E+01	--	--	na	8.9E+01	--	--	--	--	--	--	--	--	--	--	na	8.9E+01
Endrin	0	8.6E-02	3.6E-02	na	6.0E-02	1.7E-01	3.6E-02	na	6.0E-02	--	--	--	--	--	--	--	--	--	1.7E-01	3.6E-02	na	6.0E-02
Endrin Aldehyde	0	--	--	--	na	3.0E-01	--	--	na	3.0E-01	--	--	--	--	--	--	--	--	--	--	na	3.0E-01

Parameter (ug/l unless noted)	Background	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations				
		Conc.	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Ethylbenzene	0	--	--	--	na	2.1E+03	--	--	na	2.1E+03	--	--	--	--	--	--	--	--	--	--	na	2.1E+03
Fluoranthene	0	--	--	--	na	1.4E+02	--	--	na	1.4E+02	--	--	--	--	--	--	--	--	--	--	na	1.4E+02
Fluorene	0	--	--	--	na	5.3E+03	--	--	na	5.3E+03	--	--	--	--	--	--	--	--	--	--	na	5.3E+03
Foaming Agents	0	--	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Guthion	0	--	--	1.0E-02	na	--	--	1.0E-02	na	--	--	--	--	--	--	--	--	--	--	1.0E-02	na	--
Heptachlor <sup>c</sup>	0	5.2E-01	3.8E-03	na	7.9E-04	1.0E+00	3.8E-03	na	7.9E-04	--	--	--	--	--	--	--	--	--	1.0E+00	3.8E-03	na	7.9E-04
Heptachlor Epoxide <sup>c</sup>	0	5.2E-01	3.8E-03	na	3.9E-04	1.0E+00	3.8E-03	na	3.9E-04	--	--	--	--	--	--	--	--	--	1.0E+00	3.8E-03	na	3.9E-04
Hexachlorobenzene <sup>c</sup>	0	--	--	--	na	2.9E-03	--	--	na	2.9E-03	--	--	--	--	--	--	--	--	--	--	na	2.9E-03
Hexachlorobutadiene <sup>c</sup>	0	--	--	--	na	1.8E+02	--	--	na	1.8E+02	--	--	--	--	--	--	--	--	--	--	na	1.8E+02
Hexachlorocyclohexane																						
Alpha-BHC <sup>c</sup>	0	--	--	--	na	4.9E-02	--	--	na	4.9E-02	--	--	--	--	--	--	--	--	--	--	na	4.9E-02
Beta-BHC <sup>c</sup>	0	--	--	--	na	1.7E-01	--	--	na	1.7E-01	--	--	--	--	--	--	--	--	--	--	na	1.7E-01
Hexachlorocyclohexane																						
Gamma-BHC <sup>c</sup> (Lindane)	0	9.5E-01	na	na	1.8E+00	1.9E+00	--	na	1.8E+00	--	--	--	--	--	--	--	--	--	1.9E+00	--	na	1.8E+00
Hexachlorocyclopentadiene	0	--	--	--	na	1.1E+03	--	--	na	1.1E+03	--	--	--	--	--	--	--	--	--	--	na	1.1E+03
Hexachloroethane <sup>c</sup>	0	--	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	--	--	na	3.3E+01
Hydrogen Sulfide	0	--	2.0E+00	na	--	--	2.0E+00	na	--	--	--	--	--	--	--	--	--	--	2.0E+00	na	--	
Indeno (1,2,3-cd) pyrene <sup>c</sup>	0	--	--	--	na	1.8E-01	--	--	na	1.8E-01	--	--	--	--	--	--	--	--	--	--	na	1.8E-01
Iron	0	--	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Isophorone <sup>c</sup>	0	--	--	--	na	9.6E+03	--	--	na	9.6E+03	--	--	--	--	--	--	--	--	--	--	na	9.6E+03
Kepone	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--	
Lead	0	2.0E+01	2.3E+00	na	--	4.1E+01	2.3E+00	na	--	--	--	--	--	--	--	--	--	--	4.1E+01	2.3E+00	na	--
Malathion	0	--	1.0E-01	na	--	--	1.0E-01	na	--	--	--	--	--	--	--	--	--	--	1.0E-01	na	--	
Manganese	0	--	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Mercury	0	1.4E+00	7.7E-01	--	--	2.8E+00	7.7E-01	--	--	--	--	--	--	--	--	--	--	--	2.8E+00	7.7E-01	--	--
Methyl Bromide	0	--	--	--	na	1.5E+03	--	--	na	1.5E+03	--	--	--	--	--	--	--	--	--	--	na	1.5E+03
Methylene Chloride <sup>c</sup>	0	--	--	--	na	5.9E+03	--	--	na	5.9E+03	--	--	--	--	--	--	--	--	--	--	na	5.9E+03
Methoxychlor	0	--	3.0E-02	na	--	--	3.0E-02	na	--	--	--	--	--	--	--	--	--	--	3.0E-02	na	--	
Mirex	0	--	0.0E+00	na	--	--	0.0E+00	na	--	--	--	--	--	--	--	--	--	--	0.0E+00	na	--	
Nickel	0	5.6E+01	6.3E+00	na	4.6E+03	1.1E+02	6.3E+00	na	4.6E+03	--	--	--	--	--	--	--	--	--	1.1E+02	6.3E+00	na	4.6E+03
Nitrate (as N)	0	--	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Nitrobenzene	0	--	--	--	na	6.9E+02	--	--	na	6.9E+02	--	--	--	--	--	--	--	--	--	--	na	6.9E+02
N-Nitrosodimethylamine <sup>c</sup>	0	--	--	--	na	3.0E+01	--	--	na	3.0E+01	--	--	--	--	--	--	--	--	--	--	na	3.0E+01
N-Nitrosodiphenylamine <sup>c</sup>	0	--	--	--	na	6.0E+01	--	--	na	6.0E+01	--	--	--	--	--	--	--	--	--	--	na	6.0E+01
N-Nitrosodi-n-propylamine <sup>c</sup>	0	--	--	--	na	5.1E+00	--	--	na	5.1E+00	--	--	--	--	--	--	--	--	--	--	na	5.1E+00
Nonylphenol	0	2.8E+01	6.6E+00	--	--	5.6E+01	6.6E+00	na	--	--	--	--	--	--	--	--	--	--	5.6E+01	6.6E+00	na	--
Parathion	0	6.5E-02	1.3E-02	na	--	1.3E-01	1.3E-02	na	--	--	--	--	--	--	--	--	--	--	1.3E-01	1.3E-02	na	--
PCB Total <sup>c</sup>	0	--	1.4E-02	na	6.4E-04	--	1.4E-02	na	6.4E-04	--	--	--	--	--	--	--	--	--	1.4E-02	na	6.4E-04	
Pentachlorophenol <sup>c</sup>	0	7.7E-03	5.9E-03	na	3.0E+01	1.5E-02	5.9E-03	na	3.0E+01	--	--	--	--	--	--	--	--	--	1.5E-02	5.9E-03	na	3.0E+01
Phenol	0	--	--	--	na	8.6E+05	--	--	na	8.6E+05	--	--	--	--	--	--	--	--	--	--	na	8.6E+05
Pyrene	0	--	--	--	na	4.0E+03	--	--	na	4.0E+03	--	--	--	--	--	--	--	--	--	--	na	4.0E+03
Radionuclides Gross Alpha Activity (pCi/L)	0	--	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Beta and Photon Activity (rem/yr)	0	--	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Radium 226 + 228 (pCi/L)	0	--	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--
Uranium (ug/l)	0	--	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	--	na	--

Parameter (ug/l unless noted)	Background Conc.	Water Quality Criteria				Wasteload Allocations				Antidegradation Baseline				Antidegradation Allocations				Most Limiting Allocations			
		Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH	Acute	Chronic	HH (PWS)	HH
Selenium, Total Recoverable	0	2.0E+01	5.0E+00	na	4.2E+03	4.0E+01	5.0E+00	na	4.2E+03	--	--	--	--	--	--	--	4.0E+01	5.0E+00	na	4.2E+03	
Silver	0	3.2E-01	--	na	--	6.4E-01	--	na	--	--	--	--	--	--	--	--	6.4E-01	--	na	--	
Sulfate	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	na	--	
1,1,2,2-Tetrachloroethane <sup>c</sup>	0	--	--	na	4.0E+01	--	--	na	4.0E+01	--	--	--	--	--	--	--	--	--	na	4.0E+01	
Tetrachloroethylene <sup>c</sup>	0	--	--	na	3.3E+01	--	--	na	3.3E+01	--	--	--	--	--	--	--	--	--	na	3.3E+01	
Thallium	0	--	--	na	4.7E-01	--	--	na	4.7E-01	--	--	--	--	--	--	--	--	--	na	4.7E-01	
Toluene	0	--	--	na	6.0E+03	--	--	na	6.0E+03	--	--	--	--	--	--	--	--	--	na	6.0E+03	
Total dissolved solids	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	na	--	
Toxaphene <sup>c</sup>	0	7.3E-01	2.0E-04	na	2.8E-03	1.5E+00	2.0E-04	na	2.8E-03	--	--	--	--	--	--	--	1.5E+00	2.0E-04	na	2.8E-03	
Tributyltin	0	4.6E-01	7.2E-02	na	--	9.2E-01	7.2E-02	na	--	--	--	--	--	--	--	--	9.2E-01	7.2E-02	na	--	
1,2,4-Trichlorobenzene	0	--	--	na	7.0E+01	--	--	na	7.0E+01	--	--	--	--	--	--	--	--	--	na	7.0E+01	
1,1,2-Trichloroethane <sup>c</sup>	0	--	--	na	1.6E+02	--	--	na	1.6E+02	--	--	--	--	--	--	--	--	--	na	1.6E+02	
Trichloroethylene <sup>c</sup>	0	--	--	na	3.0E+02	--	--	na	3.0E+02	--	--	--	--	--	--	--	--	--	na	3.0E+02	
2,4,6-Trichlorophenol <sup>c</sup>	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	--	na	2.4E+01	
2-(2,4,5-Trichlorophenoxy) propionic acid (Silvex)	0	--	--	na	--	--	--	na	--	--	--	--	--	--	--	--	--	--	na	--	
Vinyl Chloride <sup>c</sup>	0	--	--	na	2.4E+01	--	--	na	2.4E+01	--	--	--	--	--	--	--	--	--	na	2.4E+01	
Zinc	0	3.6E+01	3.6E+01	na	2.6E+04	7.2E+01	3.6E+01	na	2.6E+04	--	--	--	--	--	--	--	7.2E+01	3.6E+01	na	2.6E+04	

Notes:

- All concentrations expressed as micrograms/liter (ug/l), unless noted otherwise
- Discharge flow is highest monthly average or Form 2C maximum for Industries and design flow for Municipalities
- Metals measured as Dissolved, unless specified otherwise
- "C" indicates a carcinogenic parameter
- Regular WLAs are mass balances (minus background concentration) using the % of stream flow entered above under Mixing Information.  
Antidegradation WLAs are based upon a complete mix.
- Antideg. Baseline = (0.25(WQC - background conc.) + background conc.) for acute and chronic  
= (0.1(WQC - background conc.) + background conc.) for human health
- WLAs established at the following stream flows: 1Q10 for Acute, 30Q10 for Chronic Ammonia, 7Q10 for Other Chronic, 30Q5 for Non-carcinogens and Harmonic Mean for Carcinogens. To apply mixing ratios from a model set the stream flow equal to (mixing ratio - 1), effluent flow equal to 1 and 100% mix.

Metal	Target Value (SSTV)
Antimony	6.4E+02
Arsenic	9.0E+01
Barium	na
Cadmium	2.3E-01
Chromium III	1.4E+01
Chromium VI	6.6E+00
Copper	1.6E+00
Iron	na
Lead	1.4E+00
Manganese	na
Mercury	4.6E-01
Nickel	3.8E+00
Selenium	3.0E+00
Silver	2.5E-01
Zinc	2.2E+01

Note: do not use QL's lower than the minimum QL's provided in agency guidance

**Attachment E**  
**WET Test Results**

IMTT-VIRGINIA Richmond Terminal  
VA0055409

WET Testing/Monitoring  
Results

Vertebrate Test Results		Invertebrate Test Results				
Place an X beside WET testing requirements under which the data were reported. List data in the appropriate test method columns.						
Acute		Acute				
48-Hour Static Renewal Tests:		48-Hour Static Renewal Tests:				
<i>Pimephales promelas</i>	X	<i>Ceriodaphnia dubia</i>	X			
<i>Oncorhynchus mykiss</i>						
<i>Cyprinodon variegatus</i>						
96-Hour Static Renewal Tests:		<i>Americamysis bahia</i>				
<i>Pimephales promelas</i>						
<i>Oncorhynchus mykiss</i>						
<i>Cyprinodon variegatus</i>						
48-Hour Static Acute (Pimephales promelas)		48-Hour Static Acute (Ceriodaphnia dubia)				
Laboratory Report or Sample Date	Acute Test Results		Acute Test Results			
	NOAEC (%)	LC50 (%)	Tua	NOAEC (%)	LC50 (%)	Tua
3/24/2009	<100	<100	>1	100	>100	<1
12/22/2009	100	N/A	1	100	N/A	1
2/8/2010	100	N/A	1	100	N/A	1
12/1/2010	100	N/A	1	100	N/A	1
3/18/2011	100	N/A	1	100	N/A	1
9/15/2011	100	N/A	1	100	N/A	1
3/14/2012	100	N/A	1	100	N/A	1
7/18/2012	100	N/A	1	100	N/A	1
1/16/2013	100	>100	1	100	>100	1
10/18/2013	100	>100	1	100	>100	1
3/12/2014	100	>100	1	100	>100	1

## Kazio, Jeremy (DEQ)

---

**From:** DeBiasi, Deborah (DEQ)  
**Sent:** Tuesday, February 26, 2013 11:54 AM  
**To:** Kazio, Jeremy (DEQ)  
**Subject:** RE: VA0055409 - IMTT Virginia Richmond Terminal West: WET Language

Wow! Your spreadsheet is impressive! Would you consider making it available to other regional staff?

I'm good with you changing them to annual frequency with one species. The language you have below still says semi-annual, but the schedule is correct.

You mentioned a test where the control survival was 98%. Did the lab run 40 organisms for that one?

Deborah L. DeBiasi, Virginia DEQ  
Office of Water Permit and Compliance Assistance Programs  
**Email:** [Deborah.DeBiasi@deq.virginia.gov](mailto:Deborah.DeBiasi@deq.virginia.gov)  
**PH:** 804-698-4028

---

**From:** Kazio, Jeremy (DEQ)  
**Sent:** Tuesday, February 26, 2013 10:13 AM  
**To:** DeBiasi, Deborah (DEQ)  
**Subject:** VA0055409 - IMTT Virginia Richmond Terminal West: WET Language

Hi Deborah,

I am in need of your concurrence on the proposed WET language for the subject draft 2013 VPDES permit reissuance.

The facility is a small tank farm located at 5500 Old Osborne Turnpike outside of Richmond (on the right, heading out of the City). They receive, store, and distribute bulk volumes of both petroleum and non-petroleum products. The only discharge from this site is storm water that collects within the containment berm, where it is held for a period of time, then discharged through an oil/water separator into a small retention basin, and then released across the grass at the back of the property. They discharge approximately 4,000 gallons about 4-6 times a year, with discharges lasting no more than 3-4 hours at a time.

Please note that the permittee does NOT discharge storm water as storm water, but rather they hold it for several weeks or months at a time until it becomes necessary to release it. Therefore, in past permit reissuances, we have NOT required time proportioned composite sampling because the characteristics of the effluent should be uniform from the beginning to the end of release (i.e. it mingles with itself for several weeks to several months before it is released).

Between 2004-2012, the permittee has been required to conduct 48-hour static acute tests for both *P.promelas* and *C.dubia*, with a limitation of 1.0 TUa (NOAEC=100%). All reports submitted during that time have indicated compliance with the limitation, except for one in 2009 where the lab reported <100% NOAEC on the test for *P.promelas*. In this example, the control batch showed 98% survival, whereas all other reports showed 100% survival for the control batch.

For the 2013 permit reissuance, I would like to eliminate monitoring for one species (*P.promelas*) and reduce the monitoring frequency from semi-annual to annual monitoring, which is in line with other permitted tank farms in this region. Given the permittee's substantial compliance with the WET limitation over the past 8 years, and considering how scarcely the permittee discharges (4-6 times a year), and the short duration of their discharges (<4 hrs), I believe that reduced monitoring is justified.

I have attached an Excel spreadsheet which displays the permittee's WET results between 2004-2012 (please choose the "WET Testing Data" tab). Below, in blue font, is the language I'm proposing to insert into the 2013 permit. I did not conduct a WETLIM or STATS evaluation on the data because the limitation already exists and it's the most stringent limit we can require due to the lack of dilution of the effluent. Please feel free to make any changes you think are necessary to the language below.

Please don't hesitate to let me know if you need any more information or have any questions. Thanks!!

---

6. Whole Effluent Toxicity (WET) Monitoring:

- a. The Whole Effluent Toxicity limitation of NOAEC = 100% (TUa=1.0) in Part I.A. is a limit that shall be implemented as specified below:

- (1) The permittee shall conduct semi-annual acute toxicity testing using grab samples of final effluent from outfall 001. The acute tests to use are:

48-Hour Static Acute Test using *Ceriodaphnia dubia*

- (2) These acute tests are to be conducted using a minimum of 4 replicates with 5 organisms each, for the control and effluent. The NOAEC (No Observed Adverse Effect Concentration) shall be reported either as 100% or <100% (less than 100%). The effluent will be in compliance if the survival of the test organisms in both the control and the 100% effluent exposures equals or exceeds 90%. If the survival in the effluent is less and this value is significantly different from the control survival, as determined by the hypotheses testing, the NOAEC is less than 100% and the effluent is not in compliance. Tests in which control survival is less than 90% are not acceptable.

- (3) A copy of the toxicity test results shall be submitted with the DMR. Test procedures and reporting shall be in accordance with the WET testing methods cited in 40 CFR 136.6.

- b. This permit may be modified or revoked and reissued to include pollutant specific limits in lieu of a WET limit should it be demonstrated that toxicity is due to specific parameters. The pollutant specific limits must control the toxicity.

- c. Testing and Reporting Schedule: The permittee shall submit a copy of each toxicity test report in accordance with the following schedule:

<u>Compliance Date</u>	<u>Submittal Date</u>
01/01/2014 - 12/31/2014	By 01/10/2015
01/01/2015 - 12/31/2015	By 01/10/2016
01/01/2016 - 12/31/2016	By 01/10/2017
01/01/2017 - 12/31/2017	By 01/10/2018

**Attachment F**  
**NPDES Permit Rating Worksheet**

# NPDES PERMIT RATING WORK SHEET

NPDES NO. VA0055409

- Regular Addition
- Discretionary Addition
- X Score change, but no status change
- Deletion

Facility Name: IMTT Virginia

City: Richmond, VA

Receiving Water: UT James River, UT Almond Creek

Reach Number: \_\_\_\_\_

*Is this facility a steam electric power plant (SIC=4911) with one or more of the following characteristics?*

1. Power output 500 MW or greater (not using a cooling pond/lake)
  2. A nuclear power plant
  3. Cooling water discharge greater than 25% of the receiving stream's 7Q10 flow rate
- YES; score is 600 (stop here)  NO (continue)

*Is this permit for a municipal separate storm sewer serving a population greater than 100,000?*

- YES; score is 700 (stop here)  
 NO (continue)

## FACTOR 1: Toxic Pollutant Potential

PCS SIC Code:

Primary SIC Code: 4226 Other SIC Codes: none

Industrial Subcategory Code: 99 (Code 000 if no subcategory)

Determine the Toxicity potential from Appendix A. Be sure to use the TOTAL toxicity potential column and check one)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points	
<input type="checkbox"/> No process waste streams	X	0	0	<input type="checkbox"/> 3.	3	15	<input type="checkbox"/> 7.	7	35
<input type="checkbox"/> 1.no electroplating	1	5	<input type="checkbox"/> 4.	4	20	<input type="checkbox"/> 8.	8	40	
<input type="checkbox"/> 2.	2	10	<input type="checkbox"/> 5.	5	25	<input type="checkbox"/> 9.	9	45	
			<input type="checkbox"/> 6.	6	30	<input type="checkbox"/> 10.	10	50	

Code Number Checked: 0

Total Points Factor 1: 0

## FACTOR 2: Flow/Stream Flow Volume (Complete either Section A or Section B; check only one)

Section A X Wastewater Flow Only Considered

Section B  Wastewater and Stream Flow Considered

Wastewater Type (See Instructions)	Code	Points	Wastewater Type (See Instructions)	Percent of instream Wastewater Concentration at Receiving Stream Low Flow	Code	Points	
Type I: Flow < 5 MGD	<input type="checkbox"/>	11	0	Type I/III:	<input type="checkbox"/> < 10 %	<input type="checkbox"/> 41	0
Flow 5 to 10 MGD	<input type="checkbox"/>	12	10		<input type="checkbox"/> 10 % to < 50 %	<input type="checkbox"/> 42	10
Flow > 10 to 50 MGD	<input type="checkbox"/>	13	20		<input type="checkbox"/> > 50 %	<input checked="" type="checkbox"/> 43	20
Flow > 50 MGD	<input type="checkbox"/>	14	30	Type II:	<input type="checkbox"/> < 10 %	<input type="checkbox"/> 51	0
Type II: Flow < 1 MGD	<input type="checkbox"/>	21	10		<input type="checkbox"/> 10 % to < 50 %	<input type="checkbox"/> 52	20
Flow 1 to 5 MGD	<input type="checkbox"/>	22	20		<input type="checkbox"/> > 50 %	<input type="checkbox"/> 53	30
Flow > 5 to 10 MGD	<input type="checkbox"/>	23	30	Type III:	<input type="checkbox"/> < 10 %	<input type="checkbox"/> 44	0
Flow > 10 MGD	<input type="checkbox"/>	24	50		<input type="checkbox"/> 10 % to < 50 %	<input type="checkbox"/> 45	10
Type III: Flow < 1 MGD	<input type="checkbox"/>	31	0		<input type="checkbox"/> > 50 %	<input type="checkbox"/> 46	20
Flow 1 to 5 MGD	<input type="checkbox"/>	32	10	Type II:	<input type="checkbox"/> < 10 %	<input type="checkbox"/> 47	0
Flow > 5 to 10 MGD	<input type="checkbox"/>	33	20		<input type="checkbox"/> 10 % to < 50 %	<input type="checkbox"/> 48	20
Flow > 10 MGD	<input type="checkbox"/>	34	30		<input type="checkbox"/> > 50 %	<input type="checkbox"/> 49	30

Code Checked from Section A or B: 43

Total Points Factor 2: 20

## SECTION IN – INDUSTRIAL

**FACTOR 3: Conventional Pollutants**  
*(only when limited by the permit)*

NONE – Monitoring only

NPDES NO: VA0055409

A. Oxygen Demanding Pollutant: (check one)

BOD    COD    Other: \_\_\_\_\_

Permit Limits: (check one)			<i>Code</i>	<i>Points</i>	
			< 100 lbs/day	1	0
	<input type="checkbox"/>		100 to 1000 lbs/day	2	5
	<input type="checkbox"/>		> 1000 to 3000 lbs/day	3	15
	<input type="checkbox"/>		> 3000 lbs/day	4	20

Code Checked: \_\_\_\_\_

B. Total Suspended Solids (TSS)

Permit Limits: (check one)			<i>Code</i>	<i>Points</i>	
			< 100 lbs/day	1	0
	<input type="checkbox"/>		100 to 1000 lbs/day	2	5
	<input type="checkbox"/>		> 1000 to 5000 lbs/day	3	15
	<input type="checkbox"/>		> 5000 lbs/day	4	20

Code Checked: \_\_\_\_\_

C. Nitrogen Pollutant: (check one)

Ammonia    Other: \_\_\_\_\_

Permit Limits: (check one)			<i>Nitrogen Equivalent</i>	<i>Code</i>	<i>Points</i>
			< 300 lbs/day	1	0
	<input type="checkbox"/>		300 to 1000 lbs/day	2	5
	<input type="checkbox"/>		> 1000 to 3000 lbs/day	3	15
	<input type="checkbox"/>		> 3000 lbs/day	4	20

Code Checked: \_\_\_\_\_

Points Scored: \_\_\_\_\_

Total Points Factor 3:   0  

## FACTOR 4: Public Health Impact

*Is there a public drinking water supply located within 50 miles downstream of the effluent discharge (this includes any body of water to which the receiving water is a tributary)? A public drinking water supply may include infiltration galleries, or other methods of conveyance that ultimately get water from the above referenced supply.*

YES (If yes, check toxicity potential number below)

NO (If no, go to Factor 5)

Determine the *human health* toxicity potential from Appendix A. Use the same SIC code and subcategory reference as in Factor 1. (Be sure to use the human health toxicity group column  check one below)

Toxicity Group	Code	Points	Toxicity Group	Code	Points	Toxicity Group	Code	Points
<input type="checkbox"/> No process waste streams	0	0	<input type="checkbox"/> 3.	3	0	<input type="checkbox"/> 7.	7	15
<input type="checkbox"/> 1.	1	0	<input type="checkbox"/> 4.	4	0	<input type="checkbox"/> 8.	8	20
<input type="checkbox"/> 2.	2	0	<input type="checkbox"/> 5.	5	5	<input type="checkbox"/> 9.	9	25
			<input type="checkbox"/> 6.	6	10	<input type="checkbox"/> 10.	10	30

Code Number Checked: \_\_\_\_\_

Total Points Factor 4:   0

## SECTION IN – INDUSTRIAL

### FACTOR 5: Water Quality Factors

NPDES NO. VA0055409

- A. Is (or will) one or more of the effluent discharge limits based on water quality factors of the receiving stream (rather than technology-based federal effluent guidelines, or technology-based state effluent guidelines), or has a wasteload allocation been assigned to the discharge:

		Code	Points
	Yes	1	10
	No	2	0

- B. Is the receiving water in compliance with applicable water quality standards for pollutants that are water quality limited in the permit?

		Code	Points
	Yes	1	0
	No	2	5

- C. Does the effluent discharged from this facility exhibit the reasonable potential to violate water quality standards due to whole effluent toxicity?

		Code	Points
	Yes	1	10
	No	2	0

Code Number Checked: A 1      B 1      C 2

Points Factor 5: A 0 + B 0 + C 0 = 0 TOTAL

### FACTOR 6: Proximity to Near Coastal Waters

- A. Base Score: Enter flow code here (from Factor 2): 43

Enter the multiplication factor that corresponds to the flow code: 0.10

Check appropriate facility HPRI Code (from PCS):

HPRI#	Code	HPRI Score	Flow Code	Multiplication Factor
<input type="checkbox"/>	1	1	20	0.00
<input type="checkbox"/>	2	2	0	0.05
<input checked="" type="checkbox"/>	3	3	30	0.10
<input type="checkbox"/>	4	4	0	0.15
<input type="checkbox"/>	5	5	20	0.10
			11, 31, or 41 12, 32, or 42 13, 33, or 43 14 or 34 21 or 51 22 or 52 23 or 53 24	0.00 0.05 0.10 0.15 0.10 0.30 0.60 1.00

HPRI code checked: 3

Base Score: (HPRI Score) 30 X (Multiplication Factor) 0.10 = 3 (TOTAL POINTS)

- B. Additional Points  NEP Program

For a facility that has an HPRI code of 3, does the facility discharge to one of the estuaries enrolled in the National Estuary Protection (NEP) program (see instructions) or the Chesapeake Bay?

	Code	Points
<input checked="" type="checkbox"/> Yes	1	10
<input type="checkbox"/> No	2	0

- C. Additional Points  Great Lakes Area of Concern

For a facility that has an HPRI code of 5, does the facility discharge any of the pollutants of concern into one of the Great Lakes' 31 areas of concern (see Instructions)

	Code	Points
<input type="checkbox"/> Yes	1	10
<input checked="" type="checkbox"/> No	2	0

Code Number Checked:

A 3      B 1      C 2

Points Factor 6: A 3 + B 10 + C 0 = 13 TOTAL

## SECTION IN – INDUSTRIAL

### SCORE SUMMARY

NPDES NO. VA0055409

Factor	Description	Total Points
1	Toxic Pollutant Potential	<u>0</u>
2	Flows/Streamflow Volume	<u>20</u>
3	Conventional Pollutants	<u>0</u>
4	Public Health Impacts	<u>0</u>
5	Water Quality Factors	<u>0</u>
6	Proximity to Near Coastal Waters	<u>13</u>
TOTAL (Factors 1 through 6)		<u>33</u>

S1. Is the total score equal to or greater than 80?  Yes (Facility is a major)  X No

S2. If the answer to the above questions is no, would you like this facility to be discretionary major?

X No

Yes (Add 500 points to the above score and provide reason below:

Reason:

NEW SCORE: 33

OLD SCORE: 55

Laura Galli  
Permit Reviewer's Name

(804) 527-5095  
Phone Number

November 10, 2014  
Date

**Attachment G**  
**VDH Coordination Response**



RECEIVED

MAR 15 2013

PRO

## COMMONWEALTH of VIRGINIA

Cynthia C. Romero, MD, FAAFP  
State Health Commissioner

John J. Aulbach II, PE  
Director, Office of Drinking Water

DEPARTMENT OF HEALTH  
OFFICE OF DRINKING WATER  
East Central Field Office

300 Turner Road  
Richmond, VA 23225  
Phone: 804-674-2880  
Fax: 804-674-2815

TO: Mr. Jeremy Kazio, Environmental Engineer II  
Department of Environmental Quality, Piedmont Regional Office

FROM: Bennett K. Ragnauth, P.E., Engineering Field Director  
East Central Field Office, Office of Drinking Water

DATE: March 6, 2013

SUBJECT: VPDES Permit Application No. VA 0055409 ■ Re-issuance (existing) □ Issuance (new)  
VWP Permit Application No. \_\_\_\_\_  
□ Combined Application for Single Family Discharge

*B. Ragnauth*  
3/8/2013

COUNTY/CITY: Henrico County

OWNER/APPLICANT: IMTT -Virginia./ Shanon Naquin (Terminal Manager).

LOCATION OF DISCHARGE / ACTIVITY: The permit is for storm runoff discharges from IMTT-Virginia bulk liquid storage and transfer terminal to an unnamed tributary to the James River, a tributary of the Chesapeake Bay. The discharge is located in Henrico County, south of Bickerstaff Road, north of Mc coul Street, east of Route 5 and west of New Osborne Turnpike.

## COMMENTS:

- There are no public water supply intakes within 15 miles downstream of the discharge/activity.
- The raw water intake for the \_\_\_\_\_ waterworks is located \_\_\_\_ miles downstream from the discharge. We recommend a minimum Reliability Class \_\_\_\_ for this facility [, which is] [the same as the existing Reliability Class] [more stringent than the existing Reliability Class].
- The raw water intake for the \_\_\_\_\_ waterworks is located \_\_\_\_ miles downstream from the discharge.
- Please forward a copy of the Draft Permit for our review and comment.
- Other comments:

Reviewer: HGB  
cc: VDH- ODW, Central Office

R:\PD15A\05-ProjectReview\01-ApplicationsDEQ\01-VPDES Appl\IMTT-VARichWest13.doc

RECEIVED PRO

OCT 17 2014



## COMMONWEALTH of VIRGINIA

Marissa J. Levine, MD, MPH, FFAFP  
State Health Commissioner

John J. Aulbach II, PE  
Director, Office of Drinking Water

DEPARTMENT OF HEALTH  
OFFICE OF DRINKING WATER  
East Central Field Office

300 Turner Road  
Richmond, VA 23225  
Phone: 804-674-2880  
Fax: 804-674-2815

**DATE:** October 7, 2014

**FROM:** Bennett K. Ragnauth, P.E., Engineering Field Director  
East Central Field Office, Office of Drinking Water

**TO:** Ms.Laura Galli, VPDES Permit Writer  
Department of Environmental Quality, Piedmont Regional Office  
4949-A Cox Road  
Glen Allen, VA, 23060

**CITY/COUNTY:** Henrico County

**APPLICANT:** IMTT Virginia/Shanon Naquin, Terminal Manager

**PERMIT TYPE:** VPDES

**APPLICATION TYPE:** Re-Issuance (Existing)

**PROJECT:** VPDES Permit No. VA0054291, IMTT Virginia East, Henrico County

**SUBJECT:** Review response for DEQ's permit application No. VA0054291

*B.K. Ragnauth*  
10/7/2014

Our office has reviewed the application for storm runoff discharges from IMTT-Virginia Richmond East bulk liquid storage and transfer terminal located at 5500 Old Osborne TNPK, Henrico. Outfalls 001 and 002 are located south of Bickerstaff Road, north of Mc coul Street, east of Route 5 and west of New Osborne Turnpike and sequentially discharge to an unnamed tributary to Almond Creek and to the James River, a tributary of the Chesapeake Bay.

There are no apparent impacts to waterworks sources as a result of this permit.

Other comments:

Reviewer: HGB

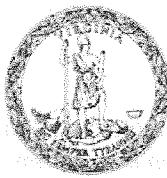
ec: Henrico Co. Health Dept., Attn. Environmental Health Manager  
cc: VDH, ODW – Central Office  
Mr. John Vithoulkas, Henrico County Manager

R:\PD15A\05-ProjectReview\01-ApplicationsDEQ\01-VPDES Appl\IMTT-VARichmondEast14.docx

**Attachment H**  
**DCR Coordination Response**

Douglas W. Domenech  
Secretary of Natural Resources

David A. Johnson  
Director



**COMMONWEALTH of VIRGINIA**  
**DEPARTMENT OF CONSERVATION AND RECREATION**

600 East Main Street, 24<sup>th</sup> Floor  
Richmond, Virginia 23219  
(804) 786-1122

June 24, 2013

Jeremy Kazio  
DEQ-FRM  
4949  
Glen Allen, VA 23060

Re: VA0054291, IMTT Virginia – Richmond East

Dear Mr. Kazio:

The Department of Conservation and Recreation's Division of Natural Heritage (DCR) has searched its Biotics Data System for occurrences of natural heritage resources from the area outlined on the submitted map. Natural heritage resources are defined as the habitat of rare, threatened, or endangered plant and animal species, unique or exemplary natural communities, and significant geologic formations.

According to the information currently in our files, Laura's clubtail (, G4/S2/NL/NL), has been downstream from the project site in the James River. Laura's clubtail, a state rare dragonfly, ranges from Ohio south to Florida with westward records to Texas (Kondratieff, 2000). In Virginia, there are records across the Piedmont and west to the Ridge and Valley region. Its habitat consists of moderated gradient streams with many shallow riffles and runs (NatureServe, 2009).

Though somewhat tolerant of decreased water quality, threats include activities which alter the water flow or substrate such as: impoundments, channelization, dredging, siltation, agricultural non-point and municipal and industrial pollution. In addition, timber harvest may increase siltation and cause a decrease in dissolved oxygen as canopy cover is removed and water temperature rises (NatureServe, 2009).

To minimize impacts to aquatic resources, DCR recommends utilization of new technologies as they become available to improve water quality.

Under a Memorandum of Agreement established between the Virginia Department of Agriculture and Consumer Services (VDACS) and the DCR, impacts on state-listed threatened and endangered plant and insect species. The current activity will not affect any documented state-listed plants or insects.

There are no State Natural Area Preserves under DCR's jurisdiction in the project vicinity.

New and updated information is continually added to Biotics. Please contact DCR for an update on this natural heritage information if a significant amount of time passes before it is utilized.

The VDGIF maintains a database of wildlife locations, including threatened and endangered species, trout streams, and anadromous fish waters that may contain information not documented in this letter. Their database may be accessed from <http://vafwis.org/fwis/> or contact Gladys Cason (804-367-0909 or [Gladys.Cason@dgif.virginia.gov](mailto:Gladys.Cason@dgif.virginia.gov)).

Should you have any questions or concerns, feel free to contact me at 804-692-0984. Thank you for the opportunity to comment on this project.

Sincerely,

*Alli Baird*

Alli Baird, LA, ASLA  
Coastal Zone Locality Liaison

#### Literature Cited

Kondratieff, Boris C. (coordinator). 2000. Dragonflies and Damselflies (Odonata) of the United States. Jamestown, ND: Northern Prairie Wildlife Research Center Online.  
<http://www.npwrc.usgs.gov/resource/distr/insects/dfly/index.htm> (Version 12DEC2003). Accessed 25Mar2010.

NatureServe. 2009. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://www.natureserve.org/explorer>. (Accessed: March 25, 2010 ).

**Attachment I**  
**Owner Comments**

**Archived:** Friday, February 13, 2015 11:24:14 AM  
**From:** LaCroix, Jennifer  
**Sent:** Friday, February 13, 2015 11:13:48 AM  
**To:** Galli, Laura (DEQ)  
**Subject:** FW: VPDES Permit VA0055409 Owner review DEQ response to comments  
**Importance:** Normal

---

Laura,

Per our phone conversation, IMTT believes that all issues have been acknowledged by DEQ and that the current draft permit is the best possible outcome for both DEQ and IMTT. This permit draft is ready to be finalized, and we're ready to proceed to public notice.

*Jennifer LaCroix*

---

**From:** LaCroix, Jennifer  
**Sent:** Friday, February 13, 2015 10:57 AM  
**To:** 'Galli, Laura (DEQ)'  
**Subject:** RE: VPDES Permit VA0055409 Owner review DEQ response to comments

Laura,

We can have a meeting if DEQ feels that it's necessary, but I talked to Fred Cunningham before I sent the letter to you. We understand the reasoning behind the requirements but don't completely agree with them. It's really just a matter of professional judgement on DEQ's side as well as ours. We're very pleased with the work that DEQ has put into reassessing our permit for this reissuance and do feel like DEQ staff listened to all of our comments/concerns even if they weren't able to make changes in response to all of our issues.

Let me know if DEQ still would like to have a meeting and we'd be happy to join you,

*Jennifer LaCroix*

---

**From:** Galli, Laura (DEQ) [<mailto:Laura.Galli@deq.virginia.gov>]  
**Sent:** Friday, February 13, 2015 10:27 AM  
**To:** LaCroix, Jennifer  
**Subject:** RE: VPDES Permit VA0055409 Owner review DEQ response to comments

Hi Jennifer,

Thanks for your letter. Based on your response, DEQ would like to schedule a meeting with IMTT at our office to discuss our position on the metals monitoring requirements.

Please let me know your availability.

Thanks,  
Laura

*Laura Galli*  
VPDES Permit Writer  
Virginia Department of Environmental Quality

Piedmont Regional Office  
4949-A Cox Rd  
Glen Allen, Virginia 23060  
Ph. (804) 527-5095  
[laura.galli@deq.virginia.gov](mailto:laura.galli@deq.virginia.gov)

---

**From:** LaCroix, Jennifer [<mailto:JenniferLaCroix@IMTT.Com>]  
**Sent:** Thursday, February 12, 2015 12:03 PM  
**To:** Galli, Laura (DEQ)  
**Subject:** RE: VPDES Permit VA0055409 Owner review DEQ response to comments

Good morning Laura,

Please find attached the final response for IMTT. I think we're just about ready to move to final copies.

Have a nice weekend,

*Jennifer LaCroix*

---

**From:** Galli, Laura (DEQ) [<mailto:Laura.Galli@deq.virginia.gov>]  
**Sent:** Monday, February 02, 2015 1:04 PM  
**To:** LaCroix, Jennifer  
**Subject:** RE: VPDES Permit VA0055409 Owner review DEQ response to comments

Jennifer,

Please see attached DEQ's responses to your comments dated December 15, 2015, and the revised draft Permit and fact Sheet for your concurrence.

Please let me know if you would like to discuss any of the items included in the letter.

Regards,  
Laura

*Laura Galli*  
VPDES Permit Writer  
Virginia Department of Environmental Quality  
Piedmont Regional Office  
4949-A Cox Rd  
Glen Allen, Virginia 23060  
Ph. (804) 527-5095  
[laura.galli@deq.virginia.gov](mailto:laura.galli@deq.virginia.gov)

---

**From:** LaCroix, Jennifer [<mailto:JenniferLaCroix@IMTT.Com>]  
**Sent:** Monday, December 15, 2014 2:00 PM  
**To:** Galli, Laura (DEQ)  
**Subject:** RE: VPDES Permit VA0055409 Owner Review

Good afternoon Laura,

Please find attached the response from IMTT after reviewing the draft documents pertaining to the reissuance of VA0055409. Please feel free to contact me with any questions or comments.

Also, should you require this letter in hard copy, please let me know and I will mail it to your attention.

Have a great day,

Jennifer LaCroix  
EH&S Manager  
IMTT-Virginia  
Office: 757-485-3000 x 113  
Mobile: 757-621-8346



---

**From:** Galli, Laura (DEQ) [<mailto:Laura.Galli@deq.virginia.gov>]  
**Sent:** Wednesday, December 03, 2014 12:13 PM  
**To:** LaCroix, Jennifer  
**Subject:** VPDES Permit VA0055409 Owner Review

Ms. LaCroix,

Please see attached for your review the draft Permit and Fact Sheet, and associated documents, for VPDES Permit VA0055409 IMTT – Virginia Richmond Terminal.

Please note that you have 14 days from receipt of the attached transmittal letter to provide comments.

Regards,  
Laura

*Laura Galli*  
VPDES Permit Writer  
Virginia Department of Environmental Quality  
Piedmont Regional Office  
4949-A Cox Rd  
Glen Allen, Virginia 23060  
Ph. (804) 527-5095  
[laura.galli@deq.virginia.gov](mailto:laura.galli@deq.virginia.gov)

---

The information contained in this e-mail and any attachment is intended solely for the person or entity to which it is addressed and may contain confidential and/or privileged information. Any review, dissemination, copying, printing or other use of this e-mail and any attachment by persons or entities other than the addressee is prohibited. If you have received this e-mail in error, please contact the sender immediately and delete all copies of the material.

---

The information contained in this e-mail and any attachment is intended solely for the person or entity to which it is addressed and may contain confidential and/or privileged information. Any review, dissemination, copying, printing or other use of this e-mail and any attachment by persons or entities other than the addressee is prohibited. If you have received this e-mail in error, please contact the sender immediately and delete all copies of the material.

---

The information contained in this e-mail and any attachment is intended solely for the person or entity to which it is addressed and may contain confidential and/or privileged information. Any review, dissemination, copying, printing or other use of this e-mail and any attachment by persons or entities other than

the addressee is prohibited. If you have received this e-mail in error,  
please contact the sender immediately and delete all copies of the material.



**Chesapeake & Richmond Terminals  
A PARTNERSHIP**

**EXECUTIVE OFFICE:** 321 St. Charles Avenue, New Orleans, LA 70130 • Phone: (504) 586-8300 • Fax: (504) 525-9537

February 12, 2015

Ms. Laura Galli  
VA Department of Environmental Quality  
Piedmont Regional Office  
4949-A Cox Road  
Glen Allen, Virginia 23060

Re: Response to "VPDES No. VA0055409 Owner Response to Comments"  
IMTT-Virginia Richmond Terminal  
5500 Old Osborne Turnpike, Richmond, VA

Dear Ms. Galli,

After review of your letter dated February 2, 2015 and the updated versions of the associated fact sheet and draft permit for reissuance of VA0055409, IMTT maintains the position that the metals parameters should be removed from the permit reissuance, or at the very least, cadmium should be removed because it exceeded neither the benchmark limit nor the screening criteria. In addition, IMTT does not agree with the more stringent frequency of monitoring for metals parameters at Outfall 001 associated with the implementation of the screening criteria. However, IMTT-Virginia strives to be a good steward for the environment and is continually searching for new ways to improve the quality of the storm water leaving the terminal. As in the past, IMTT will continue to comply with EPA / DEQ regulations, guidance, and permits as a way to continue to improve water quality for the James River.

We would like to thank you for the consideration given to all of our previous requests. I can be reached at (757) 485-3000 x 113 or [jennifer.lacroix@imtt.com](mailto:jennifer.lacroix@imtt.com) for any further assistance or discussion.

Sincerely,

Jennifer LaCroix  
EH&S Manager

**Mailing Address:** 2801 S. Military Hwy, Chesapeake, VA 23323 • **Phone:** (757) 485 - 3000 • **Fax:** (757) 485-7166  
**Web Address:** [www.imtt.com](http://www.imtt.com)

STORAGE, PACKAGING AND DISTRIBUTION SERVICES FOR ALL BULK LIQUID PRODUCTS



# COMMONWEALTH of VIRGINIA

## DEPARTMENT OF ENVIRONMENTAL QUALITY PIEDMONT REGIONAL OFFICE

Molly Joseph Ward  
Secretary of Natural Resources

4949-A Cox Road, Glen Allen, Virginia 23060  
(804) 527-5020 Fax (804) 527-5106  
[www.deq.virginia.gov](http://www.deq.virginia.gov)

David K. Paylor  
Director

Michael P. Murphy  
Regional Director

February 2, 2015

Ms. Jennifer LaCroix  
EH&S Manager  
IMTT Virginia – Richmond Terminal  
2801 S. Military Hwy  
Chesapeake, VA 23323

RE: IMTT Virginia - Richmond Terminal Permit Reissuance  
VPDES No.VA0055409 Owner Review Response to Comments

Dear Ms. LaCroix,

The Department of Environmental Quality has reviewed the permittee's comments to the draft Permit VA0055409, received on December 15, 2014, and provides the following responses:

**Re Comment 1 and 2:** The requirement of discharging only during major storm events has been erroneously included in the draft Permit for all three outfalls, as it is DEQ's internal decision to no longer include this requirement. Therefore, this requirement has been deleted from the permit for all three outfalls.

**Re Comment 3 and 4:** Section A.1.c of the GM14-2003, IN-4 clarifies that: "If the monitoring data reported by the permittee indicates conclusively that a parameter is not present in the stormwater runoff, then the parameter may be dropped". This language is slightly different from the language originally included in the fact sheet. All metals, as indicated in tables 2, 3 and 4 of the fact sheet, either were detected or exceeded the screening criteria or the benchmark value. The Department, in accordance with the Industrial Stormwater section of GM14-2003, believes that all parameters of concern that were limited in the 2008 and 2009 permits, whether they exceeded screening criteria, benchmark monitoring, or were simply detected, should remain in the 2015 permit as monitored only parameters. The data collected during the new permit cycle will be utilized to monitor the concentrations of these pollutants over the next permit cycle and to monitor the effectiveness of BMPs implemented by the facility in accordance with its SWPPP.

**Re Comment 5:** Section IN-4 of GM14-2003, page 4, recommends a semiannual monitoring frequency for their benchmark stormwater discharge. However, Section A.2.b Screening Criteria includes a requirement for quarterly monitoring of those parameters that exceed the respective screening criteria. Therefore, since copper, lead and zinc at Outfall 001 exceeded their screening criteria, their monitoring frequency will remain at 1 per 3 months. All other metal frequencies for Outfalls 001, 002 and 003 have been changed to 1 per 6 months.

**Re Comment 6:** The Department believes that continued hardness monitoring with a frequency of 1/year should remain in the permit for the purpose of future metals evaluation.

**Re Comment 7:** The permit was originally assigned a NOAEC test versus the LC50 test because of lack of dilution in the discharge since the NOAEC test is more stringent. Therefore, the Department believes that the permittee should continue utilizing the NOAEC test.

**Re Comment 8:** The Department agrees that monthly DMRs are not required and therefore condition I.B.7 has been removed from the Permit.

**Re Comment 9:** The language in Section 24.b of the Fact Sheet refers to monitoring frequency reductions that are granted based on past performances. The monitoring frequency reductions in the 2015 permit derive from the recommended frequencies included in the GM-14-2003 Industrial Stormwater section. This section of the Fact Sheet has been modified for clarification.

**Re Comment 10:** Form 2F is specifically for industrial stormwater discharges. The facility was originally requested to submit form 2C as part of the application package because at that time the discharge was still considered process wastewater. Please note that the permittee is allowed to submit previous laboratory data as long as they are not older than three years. Therefore, old data may be certified to fulfill the requirements of form 2F. Also, please note that form 2F requires the reporting of information specific to industrial stormwater conditions that is not otherwise required in form 2C.

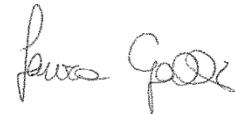
**Re Comment 11:** The permittee may refer to the location of the previous 5-years of data in the e-DMR system to comply with the SWPPP requirements, as requested.

Attached to this letter are the revised Permit and Fact Sheet. Please review carefully as other sections, not addressed in this letter, have been modified following review (please see item 17 – antibacksliding and the deletion of the compliance reporting special condition).

Please submit a response to this office within 14 days of receipt of this letter indicating your concurrence, comments or objections on the revised draft Permit and Fact Sheet.

Should you have any questions, you may contact me at 804-527-5095 or [laura.galli@deq.virginia.gov](mailto:laura.galli@deq.virginia.gov).

Sincerely,



Laura Galli  
VPDES Permit Writer



**IMTT - Virginia**

**Chesapeake & Richmond Terminals  
A PARTNERSHIP**

**EXECUTIVE OFFICE:** 321 St. Charles Avenue, New Orleans, LA 70130 • Phone: (504) 586-8300 • Fax: (504) 525-9537

December 15, 2014

Ms. Laura Galli  
VA Department of Environmental Quality  
Piedmont Regional Office  
4949-A Cox Road  
Glen Allen, Virginia 23060

Re: Requests and comments noted after review of draft VA0055409  
IMTT-Virginia Richmond Terminal  
5500 Old Osborne Turnpike, Richmond, VA

Dear Ms. Galli,

After review of the draft permit for reissuance of VA0055409, IMTT would like to make the following requests and comments in addition to asking a few questions for clarification.

- In part I. A. of the draft permit, it is noted for each outfall that "... the permittee is authorized to discharge from Outfall (XXX) only during major storm events..." Please provide us with a definition of "major storm event" as it pertains to discharging.
- As our historical issues with metals limits have always been associated with Outfall 001, we respectfully request that the stipulation of discharging during a major storm event only apply to Outfall 001 instead of all 3 outfalls listed in the permit.
  - Should this request be granted, we would have a follow-up request to include a statement in Part I. A. that would note that, because Outfalls 002 and 003 are valved, the rainfall and major storm requirements in the permit do not apply for sampling of these two outfalls.
- After meetings with DEQ staff, we believed that the metals parameters would be removed from Outfall 001. We did, however, notice that limits had been removed from Part I. A., and slightly less stringent limits were included as Comparative Values under the Storm Water Management section. We respectfully request that all metals parameters and limits be removed from the permit as was our understanding if we agreed to discharge during rain events.

**Mailing Address:** 2801 S. Military Hwy, Chesapeake, VA 23323 • **Phone:** (757) 485 - 3000 • **Fax:** (757) 485-7166  
**Web Address:** [www.imtt.com](http://www.imtt.com)

STORAGE, PACKAGING AND DISTRIBUTION SERVICES FOR ALL BULK LIQUID PRODUCTS



**IMTT - Virginia**

**Chesapeake & Richmond Terminals  
A PARTNERSHIP**

**EXECUTIVE OFFICE:** 321 St. Charles Avenue, New Orleans, LA 70130 • Phone: (504) 586-8300 • Fax: (504) 525-9537

- On page 5 of the draft fact sheet, it states “If the monitoring data reported by the permittee indicates conclusively that a parameter is not present in the stormwater runoff above the benchmark concentration, then that parameter may be dropped.” As stated in the draft fact sheet, according to data submitted, none of the metals – cadmium, copper, lead, or zinc – has exceeded the benchmark values. We respectfully request that all metals be removed from the permit in accordance with this statement and discontinue the continued monitoring that is noted as being appropriate in the fact sheet.
- The frequency of metals testing was increased from 1/6months to 1/3months. We respectfully request, should the metals parameters not be eliminated as requested previously, that the frequency be changed back to its original 1/6months sampling frequency.
- As the Hardness parameter is used in conjunction with metals testing, we respectfully request that the Hardness parameter be removed from the permit as well.
- Although the stringency of the test is no different, we respectfully request that the toxicity testing required be changed from an NOAEC to an Acute Toxic Unit determination (LC50).
- In Part I. B. 7., a requirement for monthly DMRs is noted. In Part I. A. of the draft, all frequencies listed are greater than 1/month which would eliminate monthly DMRs. Please provide further explanation for this section of the permit.
- Section 24b on page 15 of the draft fact sheet states that frequency reduction was not considered for this permit. After reviewing Part I. A., it appears that frequency reduction may have been considered for some parameters. Please provide more explanation for this statement.
- In Part I. B. 10., Form 2F is required to be submitted within 1 year of effective date of the permit. Except for the COD parameter specifically for Outfall 001, the parameters required on Form 2F – oil & grease, BOD, COD, TSS, Total Nitrogen, Total Phosphorus, pH, part B additional (TPH, TOC) – were included in the data provided during the application submittal whether included on Form 2C or in other analytical data provided with the application documents. We respectfully request that we only be asked to provide additional data for COD for Outfall 001 as it was specifically requested by DEQ staff at the beginning of the reapplication process for IMTT to submit Form 2C instead of 2F.

**Mailing Address:** 2801 S. Military Hwy, Chesapeake, VA 23323 • **Phone:** (757) 485 - 3000 • **Fax:** (757) 485-7166  
**Web Address:** [www.imtt.com](http://www.imtt.com)

STORAGE, PACKAGING AND DISTRIBUTION SERVICES FOR ALL BULK LIQUID PRODUCTS



**IMTT - Virginia**

**Chesapeake & Richmond Terminals  
A PARTNERSHIP**

**EXECUTIVE OFFICE:** 321 St. Charles Avenue, New Orleans, LA 70130 • Phone: (504) 586-8300 • Fax: (504) 525-9537

- All sampling data from the previous permit term is required to be included in the Storm Water Pollution Prevention Plan (SWPPP). Because IMTT participates in the e-DMR program and maintains files electronically as much as possible in order to reduce our environmental footprint, we respectfully request that we can simply reference the location of the previous 5-year's of data in the e-DMR system to comply with requirements for the contents of the SWPPP.

We would like to thank you in advance for considering all of our requests. I can be reached at (757) 485-3000 x 113 or [jenniferlacroix@imtt.com](mailto:jenniferlacroix@imtt.com) for any further assistance or discussion.

Sincerely,

Jennifer LaCroix  
EH&S Manager

**Mailing Address:** 2801 S. Military Hwy, Chesapeake, VA 23323 • **Phone:** (757) 485 - 3000 • **Fax:** (757) 485-7166  
**Web Address:** [www.imtt.com](http://www.imtt.com)

STORAGE, PACKAGING AND DISTRIBUTION SERVICES FOR ALL BULK LIQUID PRODUCTS